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Number 2



COOPER ORNITHOLOGICAL CLUB

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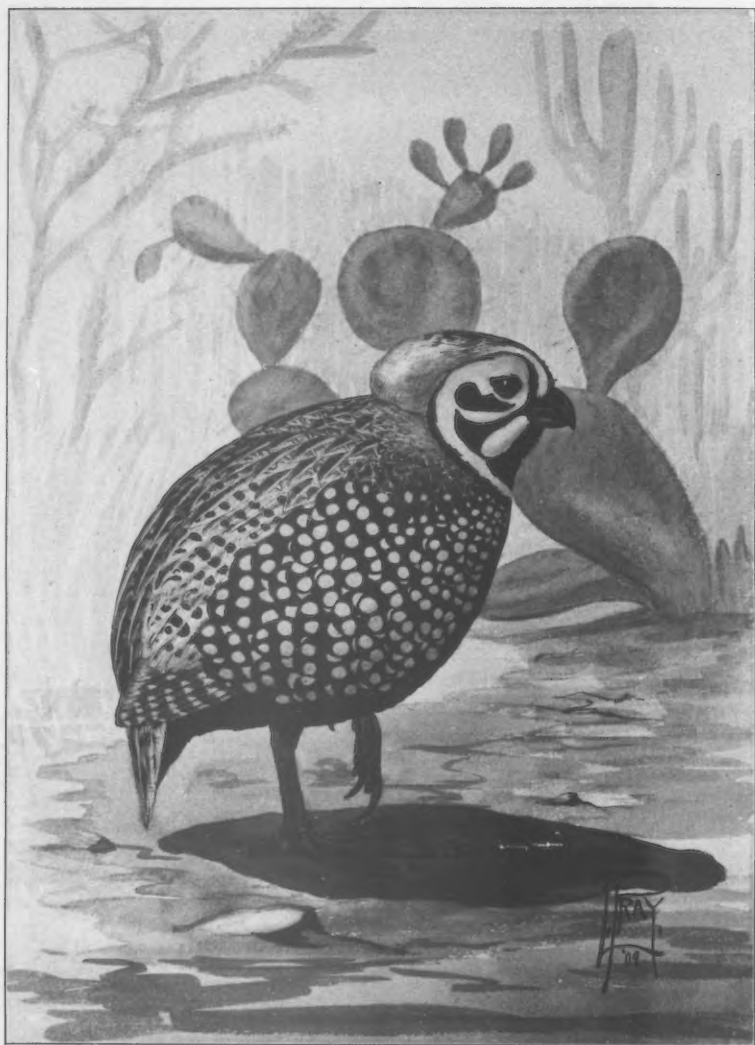
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MEARNS QUAIL (*CYRTONYX MONTEZUMÆ MEARNSI*)

(ADULT MALE)

From painting by Leon Pray

THE CONDOR A MAGAZINE OF WESTERN ORNITHOLOGY.



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DISTRIBUTION AND MOLT OF THE MEARNS QUAIL

By H. S. SWARTH *

WITH FRONTISPIECE, MAP AND THREE PHOTOS

ONE of the most interesting, as well as least known of the North American Gallinæ is the Mearns Quail (*Cyrtonyx montezumæ mearnsi*), known thruout its range in the United States as the "Fool Quail." The vernacular name is derived chiefly from the custom the bird has of lying very closely, and taking flight only when nearly trodden upon, habits greatly in contrast to those of the Scaled and Gambel quails of the same general region, which trust less to concealment than to the speed of their legs. In his own way, however, the Mearns Quail is quite well able to care for himself, sufficiently so that the opprobrious name would hardly seem to be deserved. It has been argued that the habit of lying close, an exceedingly desirable one from the standpoint of the sportsman, common to the Bob-white and other allied game birds, is largely a matter of education; that is, that originally these species had similar habits to most of the quail now inhabiting the wilder southwestern country. I believe it is true of the California Quail, and possibly of other species, that in places where they are much hunted they lie more closely and run less than in wilder regions where they are seldom disturbed. However the Mearns Quail seems to have found the habit of hiding best adapted to his needs in the first place, tho, in Arizona at least, his surroundings are in every respect very similar to those of the Mountain Quail in California, which is so preëminently a running bird that it is very difficult to get a wing shot at it.

Their call consists of a series of notes slowly descending the scale, and ending in a long, low trill, the whole being ventriloquial in effect and most difficult to locate. It is easily imitated, however, and the birds readily answer when one whistles; when the flock is scattered they will sometimes even return, calling at intervals as they approach. The only other note I have heard is a quavering whistle uttered as they take flight.

*Contribution from the University of California Museum of Vertebrate Zoology.

The Mearns Quail is found along a considerable extent of the Mexican Boundary of the United States, being, however, very local and extremely irregular in its distribution. It is a bird of the Upper Sonoran and Lower Transition zones, fond of rough, brushy hillsides, and but seldom venturing out into the open valleys. In Arizona it has been recorded from almost all the higher mountains of the south-eastern portion of the Territory, but these are nearly all more or less completely isolated ranges, and there are large tracts of country intervening, not at all suited to the species, where other species of quail occur, *Lophortyx gambeli* and *Callipepla squamata*. The species was found in the Mogollon Mountains by Dr. Mearns, reaching its northern and western limit near Fort Whipple, where Dr. Coues secured two specimens in 1865. Henshaw speaks of it as a common resident in the White Mountains, where he secured adults and young in August and September. Scott found it on the San Pedro slope of the Catalina Mountains, ranging from 4000 to 5700 feet, and at the head of Mineral Creek in the Pinal Mountains. It has also been found in the Chiricahua, Santa Rita, Patagonia, Huachuca, and Rincon Mountains. Thus its distribution in Arizona may be traced with a fair degree of accuracy.



MAP SHOWING UNITED STATES RANGE OF THE MEARNS QUAIL.

In New Mexico it has been reported from the head of the Gila River, the Sierra Hachita, and from the Guadalupe Mountains, and probably occurs in many intervening spots. In Western Texas there are records of its occurrence in the Chisos and Davis Mountains, in Crockett, Edwards, and Tom Green Counties, and from the vicinity of San Antonio, probably its eastern limit. Information regarding the distribution of the Mearns Quail in Texas and New Mexico is scanty and unsatisfactory, as is readily seen on trying to apply it to a map; and while the accompanying outline possibly indicates the extreme points of the range, it leaves much to be desired as regards details. I believe, however, that the distribution of the species in Arizona is fairly well indicated tho there are one or two mountain ranges in the same general region, from which there is no data available, and where I believe the bird is sure to be found. The point I wished to illustrate and emphasize is the peculiarly disconnected manner of distribution—the species is non-migratory and in each range is as absolutely isolated as if on an island, the low, semi-desert valleys between forming effective barriers.

The species extends south far into Mexico, but just where the variety *mearnsi*

merges into the true *C. montezumae* can not well be shown, and I have tried merely to indicate the distribution in the United States.

The vertical range seems to be approximately from 4000 to 9000 feet, but whether it breeds thruout this range I can not say. I have seen quite young birds at something over 9000 feet.

During a visit to the country of the Mearns Quail, finding the species abundant, and in the midst of the autumnal molt, I took advantage of the opportunity to secure a number of the birds, including a series that illustrates very well the manner in which the first winter plumage of the male is acquired. This was in

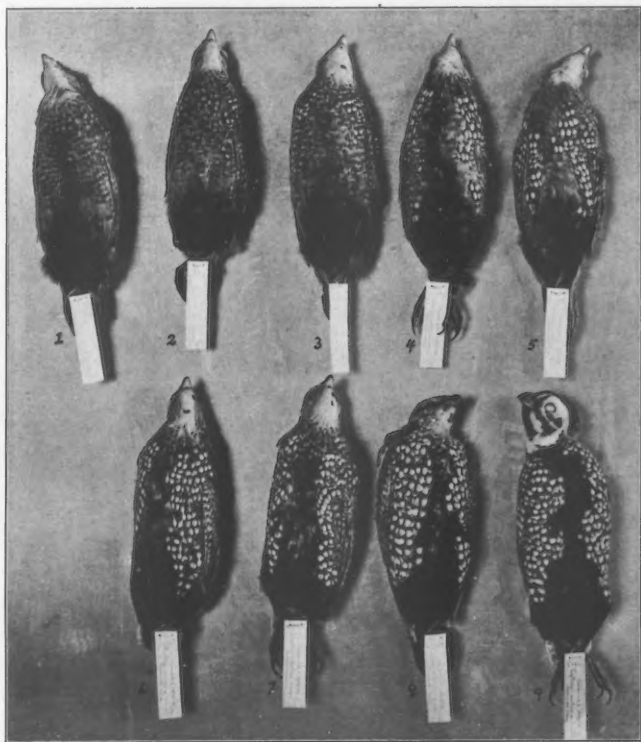


FIG.1—SERIES OF MEARNS QUAIL ILLUSTRATING POST-JUVENAL MOLT OF THE MALE

October and November, too late to secure any downy young, the youngest ones seen being in the "juvinal plumage" which is retained in its entirety for but a very short time. Figure 1, including eight immature males in various stages of change, and one adult male in freshly acquired autumnal plumage, shows how the change in the underparts is accomplished. Number 1 is in the juvinal plumage, purely. The back is streaked, much as in the old bird, but head and underparts lack entirely the bold striking markings of the adult male. The breast and lower parts are spotted, but it is interesting to note, that, whereas in the old male the

markings consist, on the individual feather, of a double row of round white spots on a dark background, in the juvenile there is a similar double row of black spots on a light colored feather. The median line of the breast is suffused with cinnamon and the lower abdomen and crissum are dull black.

Number 2 shows a few white-spotted feathers at the upper end of the pectoral tracts, while the remainder of the series illustrates the downward extension of this growth. New, glossy black feathers are beginning to appear on the flanks at the same time that the spotted breast feathers are sprouting; but the rich chestnut of the center of the breast is the last of the body plumage to be acquired, even number 8 (otherwise in perfect plumage except for the head), showing a line of the pale colored juvenile feathers. The changes in the upper parts are much less apparent, number 1 being streaked above, practically like the adult, tho on close examination it is seen to lack, to some extent, the exquisite markings and delicate

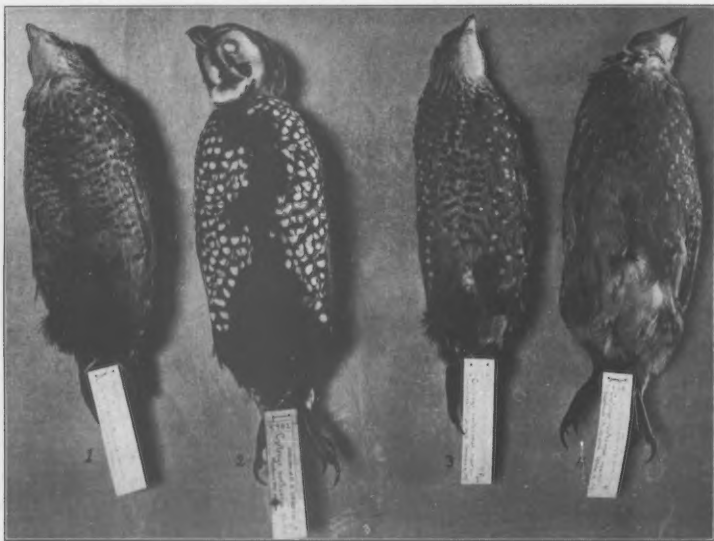


FIG. 2.—MEARNS QUAIL: NO. 1, MALE JUVENAL; NO. 2, MALE ADULT; NO. 3, FEMALE JUVENAL; NO. 4, FEMALE ADULT

penicillings possessed by the latter. It lacks also the black spotted tertials, and blue greater wing coverts, these being nearly perfect in the stage reached by number 8. I secured no specimens illustrating the acquisition of the conspicuous and curious facial markings, and it seems remarkable that the plumage of the other parts, body and wings, should be entirely renewed before there is the beginning of any change on the head. In the young of both sexes the head is marked practically as in the adult female except that the occiput is transversely barred, while in the latter it is marked with longitudinal streakings. There is a rounded occipital crest, similar to that of the adult tho not as full. In those birds which have nearly or quite completed the change in the body plumage, there is a line of pin feathers appearing on the center of the occiput, the beginning of the change on the head.

In the stage reached by number 4 the primaries have quite completed their growth.

Figure 2 shows a male in juvenal plumage (number 1), a male in second winter plumage (number 2), a female in juvenal plumage (with some first winter feathers appearing on the upper breast, however) (number 3) and a female in second winter plumage (number 4).

Dr. Dwight, in a paper on the molt of the North American *Tetraonidae* (Auk XVII, 1900, p. 50), speaks of the young of this species as being alike in the juvenal plumage, and resembling the adult female. All the young males I secured have the crissum, flanks, and lower abdomen, dull black (a mark surprisingly conspicuous as the birds take flight), while the middle of the breast is rusty brown, a foreshadowing of the brilliant markings to appear later; while the young females (and adults also) have these same parts white or pinkish.

This species seems to be late with its breeding. The young of *Lophortyx gambeli*, *L. californicus vallicola*, and *Oreortyx pictus plumiferus*, living under very similar conditions, have, by the end of September as a rule, fully acquired their first winter plumage, while I have secured young of *Cyrtonyx m. mearnsi* the first week in November which had hardly begun the post-juvenal molt. It is possible that the heavy summer rains that occur in the regions inhabited by this species destroy many of the earlier sets of eggs, thus forcing the birds to bring out their young later, but the same reasoning would apply to other species not so conspicuously dilatory.

University of California.

THE POPULAR NAMES OF BIRDS

By JONATHAN DWIGHT, JR., M. D.

POPULAR or vernacular names are of two sorts—those very local in their use and those approved by standard authorities for general use wherever the language is spoken. The standard for North American Birds, for over twenty years, has been the A. O. U. Check-List which has as a matter of fact recognized the most widely used local names and only supplied others when no popular name was in vogue. Of late years unfortunately its authority has been impaired by a few radicals who have been agitating certain "reforms", and under the circumstances it may be well to weigh these claims which do not seem to rest on a very solid foundation.

There is no immunity to the germs of fads, and their virulence is attested by every new fashion, every new cult, every new world-language, every new breakfast food that periodically flourishes and claims its victims; and just as some visionaries seek to improve on the natural development of dogs or horses by clipping of ears and docking of tails, so, in much the same spirit, others clip and dock words in the attempt to reform spelling or improve grammar.

Today some of our apostles of vernacular reform wish to throw away the possessive case for the popular names of birds and beasts and substitute the so-called adjectival form;—they would have us say "Audubon Warbler," "Anna Hummingbird," "Wilson Thrush," "Merriam Elk," and so on, dropping the time-honored apostrophe and the "s." Tomorrow, perhaps, it may please them to drop "needless" syllables and thereby attain such agreeable results as Bar Owl, Belt King-

fisher, Chip Sparrow, Horn Grebe, West Gull or North Phalarope. Dropping of capitals has already been tried and we are left to wonder what may be Lucy warbler, ross goose or brewster booby, and to dread the possibility of "simplified" spelling which might give us Blak-bild Kuku, Red-id Vireo, or Blak-capt Chikady. Once we begin with "reform" and there is no telling where it may end.

English grammar and usage are, however, not to be lightly set aside, and it is well not to be beguiled by "reform" that offers no adequate advantages. Granted that we may say, for instance, either "Wilson's Thrush occurs" or "the Wilson Thrush occurs," we certainly gain nothing in brevity by using the adjectival form. And after all, the noun used as an adjective is somewhat of a grammatical upstart and his social standing is as yet none too sure. Custom has sanctioned his use chiefly for places, while the possessive has prevailed for persons. So it has been the rule among ornithologists to say "the Labrador Duck," or "the California Jay" when places are concerned, but "Cassin's Bullfinch" or "Smith's Longspur" when persons are honored. This is the way popular names have evolved, and we have merely to stick to what has been customary. Uniformity should be sought, but not at the expense of meaning. The ruling of postoffice authorities and of geographic boards (the chief offenders in "reform") is not the final criterion of language.

The distinction between person and place is an aspect of the subject worth considering, and by preserving in our lists the possessive form for birds or beasts named after persons we shall avoid much ambiguity. For instance, the apostrophe and "s" of "Virginia's Warbler" apprise everybody that the bird is not named after the State of Virginia, whereas the "Virginia Rail" is. In the same way we should know that "Olive Warbler" and "Myrtle Warbler" are not named after girls. But we must look farther than the narrow limits of our North American list to realize the importance and convenience of such a distinction. Contrast names like Stone Curlew with Stone's Caribou, Brown Creeper with Brown's Song Sparrow, Gray Kingbird with Gray's Tanager or White Ibis with White's Thrush and the ambiguity that would follow the loss of the possessive form becomes very evident. Or take such names as Wood Thrush, Field Sparrow, King Eider, Little Gull, Winter Wren, or Marsh Hawk, where the birds might well be named after Messrs. Wood, Field, King, Little, Winter or Marsh. Perhaps these examples are quite familiar to us, but how about such names as Gila Woodpecker, Costa Hummingbird, Lomita Wren, Alma Thrush, Grinda Bush-Tit, Lazuli Bunting, Flores Hummingbird, Rivoli Hummingbird, Cetti Warbler, Brewer Blackbird, Couch Kingbird, Derby Flycatcher, Sandwich Sparrow, Bell Sparrow, Wall Creeper, Bean Goose, Crissal Thrasher, Ray Wagtail, Scops Owl, Green Tody, Black Petrel, or a host of others that might be cited? Would not an occasional apostrophe and "s" be extremely convenient to distinguish at once the birds that are named after persons?

To sum the matter up, then, no reform is needed and educated people will continue to use either the possessive or the adjectival form or both as occasion requires. It is well to be a little conservative in this era of rapidity and there is certainly no overwhelming demand for reform in vernacular names. There has been some previous discussion of the subject and what Mr. Dawson (CONDOR, July-August, 1907, 112) has to say may be read to advantage, although some of his conclusions are rather forced and he has used the word "pronominal" when he means adjectival. It is no difference of opinion between the East and West, as he suggests, but merely the activity of a few individuals who are trying to re-form familiar words under the plea of uniformity. One is reminded of the fable of the

fox who lost his tail in a trap, and wonders whether the plea may not be an endeavor to make fashionable the bob-tailed names that have unfortunately, here and there, got into print.

Then there are "reformers" who would discard a well established name because it is inappropriate. No policy can be more mistaken. What difference does it make if a Purple Finch is not purple or the Louisiana Tanager is not found within the present day boundaries of Louisiana? There is hardly a name on the list that would not be subject to removal if everybody's whims were consulted. Let us at least strive for stability in vernacular names and accept those that have grown into general use. Even modern *Junco* and *Vireo*, like some generic names in botany, have gained vernacular recognition.

In the promised new edition of the Check-List we hope to see subspecific popular names as sharply differentiated as are the subspecific trinomials. *Every* race of the Song Sparrow or Brown Creeper or California Jay or Hairy Woodpecker ought to have a trinomial popular name if our list is to be uniform. It will require some ingenuity to meet the details of this problem, but now that the trinomial has come home to roost, the consequences must be met, and the awkward inconsistencies of the old Check-List overcome. It won't do to say "Western Savanna Sparrow" for one race and "Bryant's Marsh Sparrow" for another. In such cases there is room for real reform of a kind that is neither reactionary nor subversive of names that have become household words. Our Check-List must be popular if it is to retain its authoritative position as to vernacular names and the utmost conservatism is necessary if it is to keep in touch with the rank and file of the army of people who take a deep interest in North American birds.

New York City.

NEST OF THE DUSKY POOR-WILL, (*PHALAENOPTILUS NUTTALLI CALIFORNICUS*)

By JOSEPH MAILLIARD

WITH ONE PHOTO BY THE AUTHOR

MY acquaintance with the Dusky Poor-Will, slight at the time and but little closer now, commenced away back in the very early seventies, when as a small lad I used to hunt for game of any sort on the back ranges of the Rancho San Geronimo, sometimes flushing one of these singular birds among the short brush on the rocky hills, or, perhaps, when in camp hearing their plaintive call at dawn or dusk.

Speaking of their call I would like to relate an incident that happened in connection with it. On our ranch is a spot marked on the old maps as "Hunters' Camp," from whence many a large shipment of venison had been made to the San Francisco markets in early days, and even now the best spot in the vicinity for a hunting camp. In the summer of 1876, if my memory serves as to date, my college chums assisted in the building of a log cabin on this spot where we could keep our blankets and cooking utensils and run up to from time to time for a little outing. While building the cabin I had noticed that on two or three evenings in succession a Dusky Poor-Will had commenced to call (to his mate?) at exactly eight o'clock. It happened that the only watch in camp stopped one day, from not having been

wound up the night before, and we were at somewhat of a loss just when to be hungry. But that evening the first call of our friend the poor-will reminded me of his recent regularity and the watch was set at eight o'clock. It happened to be foggy on that particular evening, and on returning to civilization we found the watch ten minutes fast. Yet that was near enough to get hungry by—in camp.

Tho rather an oldish boy now, and gray haired to boot, I have never gotten over the deer hunting habit, nor lost interest in flushing a Poor-Will. And yet in all these years, and in all the hunting—for game, cattle and poachers—on the ranges of the Rancho San Geronimo it has never been my good fortune to come across a nest of these birds until July 22nd of this past year (1908). A few days before—on July 14th, to be exact—my brother and I, with a couple of friends, established ourselves in the old camp for a week's enjoyment of out-of-door life



EGGS AND NESTING SITE OF DUSKY POOR-WILL

with a little hunting and collecting as an added zest. Just at dusk on the evening of the 19th, as I was returning to camp along the top of a rocky ridge a Dusky Poor-Will flushed from among some fragments of serpentine rock in a spot from which we had burnt the low, scrubby manzanita brush the previous winter, but, supposing the bird was feeding at the time, I thought nothing of the occurrence, especially at such a late date in the season.

On the morning of July 22nd we broke camp, hunting a little on the way home. While standing on a rock overlooking a long canyon, one of our ranch foremen, passing along a trail about two hundred yards behind me, called out that he had something to talk about and started across the rocky ground thru the burnt brush to come to me. I started to meet him and when we were about 60 yards apart I

saw a Dusky Poor-Will fly up just in front of him and about where one had flushed on the evening previously mentioned. The foreman called out, "Did you see that funny-looking bird?" and a second after as he took another step he exclaimed, "Hello! Here's some white eggs!" Not having had such good fortune in all these many years as to find a nest of these birds it was an interesting moment, and a great fear possessed me that the eggs might be those of some belated pair of Mourning Doves, and that the Poor-Will having been in close vicinity to them was a mere coincidence. A look at the eggs, however, was very reassuring, but to be absolutely positive it was necessary to hide and await the parent's return. This was not a very tedious wait in this case as the female soon appeared and settled most satisfactorily upon her eggs. Having a camera with me I carefully studied how to get her on a plate, but this seemed a hopeless task. She would let me approach to about twelve feet, but that was all. On account of the low rocks near her nest there was only one side from which an exposure could be made.

The weather was foggy, to say nothing of a strong wind, and as no shadows were cast the negative was bound to be flat, with rocks and ground of about the same light values. Despairing of getting anything better under the circumstances I took the best exposure I could make and then "collected" the set. Upon developing these negatives they were found to be extremely flat, as was expected, so, two or three days later—the first day, in fact, that leisure permitted—I rode up on the ridge with the blown eggs, carefully packed you may be sure, prints of the best negatives, and my camera, to try to improve on the first lot.

Replacing the eggs exactly as they were originally I tried for some time to get something more satisfactory. It was again foggy and windy—the fog condensing on the lens of the camera when focusing—and but little could be done in the way of improving over the first attempts. In reality the rock behind the eggs stands up some three feet, the eggs being at the base of it, with two good-sized stones lying in front of them; but the prints all give an impression of an almost flat surface, gently sloping backwards. In the afternoon the sun would have been in the camera's eye, if the fog cleared away, and the wind very strong, so the morning was the only chance for an exposure. Even at six feet, supposing the bird would have allowed so close an approach, it is extremely problematical if she would have been discernable in a negative, as she was just about the color of the charred leaves and small stones surrounding her.

The cut shows a few straws of dry grass a little distance away from the eggs. This is the only semblance of a nest there was. The eggs were placed upon the bare fragments of rock and these straws seemed rather to have been pushed out of the way than brought together for any purpose. The incubation of this set was about one-third along. Query: was this a second set, the first having been destroyed? Or is this the customary date of breeding of this bird in the locality?

San Geronimo, California.

NOTES ON THE CALIFORNIA BLACK RAIL

By FRANK STEPHENS

MANY years ago Mr. H. W. Henshaw told me that he had been informed that California Black Rails (*Creciscus coturniculus*) were sometimes common in the salt marshes around San Diego Bay. In our conversation Mr. Henshaw seemed to be under the impression that these Rails were but migrants at San Diego and that they were most likely to be found very late in the autumn.

In 1886 I was living near San Bernardino. In December of that year I drove to San Diego and spent several days looking for California Black Rails, without success. Some of the local hunters knew of them and one of them a few days later sent me one in the flesh. He wrote that he had killed it near Encinitas, some twenty-five miles up the coast.

My next acquaintance with the species was November 16, 1902, when a young friend brought me one which he said he had caught that day with his hands on the railroad track near the foot of 14th street in San Diego, at high tide. At this place the railroad tracks cross a tide marsh, which is now being filled.

Last spring the manual training teacher here told me that one of his pupils had found the eggs of the California Black Rail in a marsh near National City. This lad told me about where he had found the nests and said the birds were common there. At Mr. Grinnell's suggestion I tried trapping for the Rails with mouse traps set in the marsh vegetation. I kept three dozen traps out a week or so but caught no Rails. I did get several sparrows and a number of harvest mice (*Reithrodontomys*) and meadow mice (*Microtus*). When setting the traps I found an egg, undoubtedly of this species, lodged in the marsh plants where it evidently had floated at high tide. Its contents were thoroly dried, but the egg was otherwise in fine condition and apparently had not been incubated. I suspect that nests are often inundated by extra high tides. As trapping proved unsuccessful I had the lad come and show me just where he found the nests and found that I was not trapping in the best place. May 28th, we tramped thru the marsh two or three hours and flushed one California Black Rail which I shot.

This boy gave me considerable information about the habits of these Rails which I will summarize. He had done much hunting for the nests and thought he was lucky if he found a nest in half-a-day's steady search. The nest seems to be usually situated in very thick marsh vegetation (*Salicornia*, etc.) near the highest limits of the high tide. He carefully turned over all the upper part of the mass of plants foot by foot. He said the nests were always covered, but were usually from an inch to several inches above the ground. I understood him to say that he had found several empty nests, some not yet used, and some which the young birds had left. He said that he had never found any bird at the nest, which might be expected from the nests being so well hidden and the ease with which the bird could slip off and keep out of sight. He said he found eggs about the middle of March and about the 20th of April. Five and six seems to be the usual number but he knew of one set that contained eight eggs. All the eggs he knew of had been found in the last four years in a tract of less than 100 acres. He said that he had heard notes that he believed were made by this Rail and described them as a sort of clicking sound. He thinks that at low tide the Rails hide in crab holes, at times.

In June, 1908, I looked for California Black Rails about False Bay, which is a short distance northwest of San Diego Bay, but within the city limits. The 22d, I was there at low tide, and when passing along a broad tide creek I saw one crouched in the mud a few feet from the bank. It stood perfectly still, with head lowered, as if expecting to be overlooked. It was so near that I killed it with my .32 caliber auxilliary. A few days later I hunted a part of the marsh at high tide late in the afternoon. On my way to camp at dusk in a place where the marsh lay at the foot of a bluff one flushed almost under my feet and lit a dozen yards away among the debris lodged at the foot of the hill and stood there in the open, tho not to be seen distinctly because of the gathering darkness. I fired at it, without effect. The bird flew out over the water and then turned around the

point, where I failed to flush it again. I happened to have a charge of heavy shot in the other barrel and let it go. This is the only long flight I have seen and it reminded me of the flight of a water ouzel. The other two flights I have seen were short and rail-like.

Last November I was camped in the valley of the Tijuana River near the last monument of the boundary between California and Mexico. The lad before mentioned staid with me a few days and was accompanied by his pointer dog. We hunted the marshes several high tides but found but one California Black Rail. This flushed close to the boy's feet and was shot by him at very short range. He presented the skin to the Museum of Vertebrate Zoology and we now have three specimens there. The dog pointed several Clapper Rails (*Rallus levipes*) but failed to find the small species.

From my own observations and such information as I have been able to obtain from others I think that the California Black Rails are resident in the salt marshes along the coast of southern California, at least as a species; there may be a short individual migration but that remains to be proven. The nesting is probably early, March and April. Sets number four to eight, probably seldom the larger number. The nests are hidden in the *Salicornia* near the highest tide line, a few inches from the ground, and are often merely a few dead bits of *Salicornia* drawn together and tramped into place. It is practically impossible to make a positive identification unless it proves practicable to trap the parent at the nest.

The birds seem to lie very close and must be nearly stepped on before they will flush. I fancy that the species will be found fairly common in many localities when they are looked for carefully in the right places.

San Diego, California.

AMONG THE THRASHERS IN ARIZONA

By M. FRENCH GILMAN

WITH ONE PHOTO BY THE AUTHOR

THE territory in which the following notes were made lies in the Pima Indian Reservation along the Gila River. Observations covered a strip of country about twelve miles long by three miles wide, lying along the south side of the Gila. My two bases of operation were Blackwater, an Indian village of 1362 feet altitude, and Sacaton, where is located the Pima Agency and the Pima Training School. Sacaton has an elevation of 1275 feet and the distance between it and Blackwater is about ten miles.

Half a mile south of the Gila, and flowing parallel with it for about twenty miles is a small stream called the Little River. Along its banks are a few cottonwoods, many willows and much water-mote (*Baccharis glutinosa*). Between the two streams, on the "Island," as it is called, are groves of cottonwoods, and a few Arizona ash trees (*Fraxinus velutina*). In places not cleared and cultivated by the Indians, is a dense growth of mesquite (*Prosopis velutina*), screw-bean (*P. odorata*), and arrow-wood (*Pluchea sericea*), besides a number of scattered plants of squaw-berry (*Lycium berlandieri*) and jujube (*Zizyphus lycioides*).

About three miles south of the Gila runs, parallel, a broken range of large hills or small mountains and on the intervening strip are many species of the cactus family: the sahuaro or Giant Cactus (*Cereus giganteus*), 20 to 35 feet high or

even more; the cholla (*Opuntia fulgida*), tree-like and 12 feet high; the dense woolly cholla (*Opuntia bigelovii*); the bisnaga (*Echinocactus wislizenii*), which furnishes drink to the traveler in extremity; and others too numerous to describe here. The ocotilla with spiny tentacles waving ten or twelve feet in air, each crowned with crimson bloom, is a feature next the foothills. Shrubs seen are the creosote bush (*Covillea tridentata*); two salt bushes (*Atriplex canescens* and *A. lentiformis*); grease wood (*Sarcobatus vermicularis*); and a few others. Trees, so-called, in this stretch of country are the mesquite, screw-bean, ironwood (*Olneya tesota*), two species of palo verde (*Parkinsonia torreyana* and *P. microphylla*), and the crucifixion thorn (*Holocantha emoryi*).

This mixture, of river bottom, sloping upland to the hills, dry sand washes running from hill to river, and the hills themselves, makes a varied bird range, and judging from their numbers a perfect paradise for thrashers. Of these, five species are seen: Sage (*Oroscoptes montanus*); Palmer (*Toxostoma curvirostre palmeri*); Bendire (*T. bendirei*); Leconte (*T. lecontei*); and Crissal (*T. crissale*).

The Sage Thrasher is here only for the winter, and was first noted November 30. The last seen was March 30. They were not numerous at any time and occurred any place from river to hills.

Palmer, Bendire and Crissal thrashers were very numerous, and it is difficult to determine which predominated. The ranges of Palmer and Bendire coincided as near as I could judge, and they were both seen at many points from river to hill. Crissal, with a few exceptions, confined himself to the dense mesquite and other growth near the river bottom. In no case did I find any of the thrashers up any distance on the hills. Too barren and rocky, I believed.

Leconte Thrasher was very rare, only five pairs being seen the past year, and they were in or near the dry sand washes away from the river.

As far as I have observed the four species of *Toxostoma* are resident here. Some of them may leave for a short time in the fall but there seems to be no regular migration. Bendire in particular seems scarce during the latter part of September and during October and November, but is occasionally seen during all that time. It is probably its dormant period, to recuperate from the molt.

In the field it is somewhat difficult to be sure in distinguishing the three species, Palmer, Bendire and Crissal. At close range, or if the birds are near enough together to compare, it is easy enough; but at a distance a single bird may puzzle. In general it may be said that Crissal is darkest, has more curve to his bill and has a bobbing, jerky flight quite similar to that of the California Thrasher. Palmer is a little larger, apparently at any rate, is lighter in color and has much of the same jerky flight. Bendire is smallest and lightest of the three and has a smooth, even flight. Both Palmer and Bendire have obsolete spots on the breast and light tips to outside tail feathers, but Bendire has the more distinct spots and whiter tail tips. At close range, say on the nest, the eye is indicative. Crissal has a straw-colored iris; Palmer, orange; and Bendire, orange red. Leconte of course is unmistakable with his light sandy complexion and fast-running habit.

The Palmer and Bendire seem naturally much tamer than the others and come about homes quite frequently. All summer I placed pieces of watermelon in the shade of a school building—vacation time and no children about—and both these thrashers came freely and ate with a family of scolding Cactus Wrens. But never a Crissal appeared. The Palmer and Crissal dug in the garden and also ate wheat planted near by, and frequented the barn and well. They would come and drink from an iron kettle placed on the ground for the chickens. At the Casa Grande ruins the custodian had a large can placed so water from it dripped onto a milk

and butter cooler. This was against a window under the porch roof and a pair of Palmers would come and catch the drops of water as they fell. At a post trader's store near Blackwater the Palmer would come into a porch and drink from the drip of an olla or water cooler. Both Palmer and Bendire frequently sing from the tops of Indian homes and sometimes from the school house.

As for singing, the Bendire has them all beaten. The others are fine singers indeed, but their repertoire is limited. Not so with Bendire. No two seem to sing exactly alike and some of the songs are quite distinct from others. Not only in variety of notes but in arrangement, are differences noticed. He is a more constant singer than the others and I frequently discovered a nest by the song of the bird. The earliest date of singing was January 3, and I could hardly believe at first that Bendire was the performer. It was a low warbling song with a decided sparrow "burr" to it. I approached as near as the bird would allow, but could not be sure that he was the singer as no throat movement could be detected. When the bird flew, the song ceased and began again after he perched on a post. I repeated this maneuver several times before I was convinced that Bendire was warbling. Next evening I walked under a mesquite tree containing the singer and obtained a good close view of him and his performance.

As the breeding season approached they sang more often, the song becoming louder and with less of the burr, in fact more like the typical thrasher song, if such there be. The songs were all very pleasing, but the variations were often puzzling at first. Whenever I heard a new strain I said, "only another Bendire tuning up." They kept up the music till late in June and occasionally a song could be heard all summer and up to the last of September.

Palmer thrasher came next in frequency of vocal effort, and even during the summer months and September a part of their song might be heard. Crissal thrasher was apparently too busy raising young to sing much after early spring was gone, and rarely uttered his call note unless disturbed or the nest approached.

Molting was quite noticeable the last of July and all of August. Birds would be seen in all stages of undress; some being reduced to one feather for a tail and presenting a ragged appearance generally. When molting was completed and the new suit put on the birds looked fine and the darker shade was very noticeable. As the breeding season had advanced the birds became much lighter, especially the Palmer, tho all three showed a marked difference. And in their new coats the same relative comparison obtained.

During the season of 1908 I made notes on 112 thrashers' nests, apportioned among the four species as follows: Crissal, 45 nests; Bendire, 39; Palmer, 27; Leconte, 1. The respective numbers of nests may be a sort of index to the relative numbers of the species; and Crissal would lead. Judged by other standards the verdict is for Bendire, as his frequent singing keeps him in the lime-light and he is much in the public ear. Next would come Palmer, who talks much more than Bendire tho he sings less. His frequently uttered liquid notes of "queet-eet" may be heard all seasons of the year, and he is fond of perching in the top of a bush or on a post even when not singing. Crissal is the silent partner of the trio and by keeping to the low underbrush and thickets is seldom seen. His call notes of "queety-queety" are occasionally heard from the mesquites, and sometimes a song. It seems to me that Crissal sings less here than among the mesquites of the Salton Sink country in California. Perhaps it is because he is here in the numerous presence of superior talent, while there the humble Cactus Wren is his commonest competitor. Bendire's call note is a single "queet" and in addition I noticed a scolding note quite similar to that of the mockingbird, only prolonged and slightly

trilled. Occasionally I heard a scolding note from both Palmer and Crissal, something like "chä." Once while a Bendire was singing I saw a Gila Woodpecker fly and alight on the same branch near him. He at once ceased singing and used his "cuss" words and the Gila departed.

As thrashers were always favorites of mine I made extensive notes on the nests seen. The locality was most favorable as the Indians never molest them and hence they were quite tame generally.

The Crissal Thrasher (*Toxostoma crissale*) began nesting earliest of all. The first nest I found was February 29 and contained three eggs about hatched. March 1st I found four nests, three of three eggs each and one containing two young recently hatched. Of the 45 nests noted, one was in February, 27 in March, six in April, ten in May, and one containing two fresh eggs June 10. A list of Crissal's choice of nesting sites may be of interest. Twenty-seven were in mesquites and mostly in typical situation, i. e., close under a large limb, making it difficult in some cases to insert a hand in the nest. One was on top of a stump but hidden by dense, sprouting twigs. Eleven were in "squaw-berry" bushes, four in greasewood, one in a palo verde, one in a mistletoe and one in a low brush fence. The average height of the nest from the ground was three feet ten inches and the extremes were two feet and eight feet. One Crissal nest I saw is not included in the foregoing list. It was in a brush fence three feet from the ground and contained ten eggs of the Gambel Partridge (*Lophortyx gambeli*).

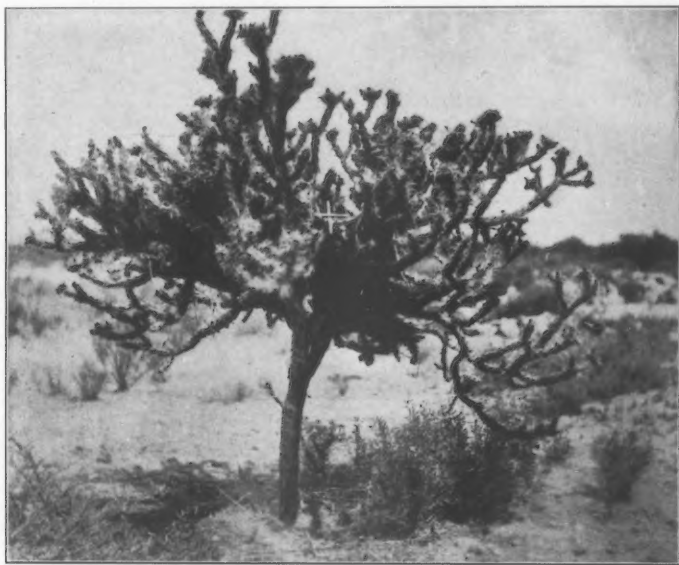
The Crissal is a rather close sitter and I could usually approach near enough to see the extremely curved bill and straw-colored eyes which sufficiently identified the bird. Upon too near an approach she would slip out the other side of the bush and perhaps give either the call or the scolding note, while I counted the eggs or young. If the nest contained young some solicitude was usually shown in which the male bird joined.

As compared with other thrashers here the nest is not much for architecture, being rather shallow and made of twigs and usually lined with fine rootlets. Sometimes a variation is shown, as one found had lining of white horse-hair; another some feathers, hair and grass; and others a little fine bark with the rootlets. I watched a nest from the time eggs were deposited till young left the nest. The set was completed April 6. At 6 A. M., April 20, one young was just out of the shell and the other egg pipped. At 6 P. M., the same date, both young were opening their mouths and trying to swallow my finger. No egg-shell could be found. May 6th both young birds left the nest. In California I found several sets of four eggs, but here three seems the rule and two are often found. None of four were seen. The short time from egg to leaving nest—30 days—probably allows the raising of more than one brood, and would account for such a protracted breeding season: five months, February to June inclusive.

The Palmer Thrasher (*Toxostoma curvirostre palmeri*) showed a decided preference for the cholla cactus as a nesting site. Of twenty-seven nests found, eleven were in the cholla; seven in the jujube, about as spiny as any cactus; four were in mistletoe of mesquite and cottonwood; two in Lycium, two in mesquite, and one in a clematis vine trailing over a shrub. The average distance from the ground was six and one-half feet, and extremes were two and one-half feet and ten feet. One old nest was found, in a mesquite five feet from the ground, containing thirteen eggs of the Gambel Partridge. Fourteen of the twenty-seven nests contained three eggs each; two had four eggs, and the rest two and one, some of the complete sets being two eggs.

Complete sets, partly incubated, were found March 1st. Of the nests noted,

twelve were found in March, ten in April, and five in May, the latest date being May 14. One nest in a cholla contained four young birds about half grown. Three weeks later another nest in the same cactus was found containing three fresh eggs. Possibly it was a second nesting of the same pair of birds. March 7 I removed a set of three eggs from a nest in a cholla, and on the 22d noticed some fresh grass lining in the nest. About a week later the nest contained two fresh eggs. In this case the birds evidently occupied the same nest a second time, something I have rarely seen except among Raptores. Another nest, also in a cholla, was found containing the usual number of three eggs. A second visit to the nest showed two of the eggs broken and nest deserted. I removed the shells and remaining egg and two or three weeks later found the nest again occupied by three fresh eggs, tho no fresh lining or repairs could be detected. About three weeks afterward I investigated and found the eggs addled and nest again deserted. As



CHOLLA CACTUS CONTAINING FIVE OLD CACTUS WREN'S NESTS, AND FOUR OLD AND ONE NEW NEST OF THE PALMER THRASHER

the cactus was only a few yards from a trading post, and a few feet from a well-traveled road, the birds had probably been disturbed too often. This cholla was evidently a favorite nesting place as it contained at the time five old Cactus Wrens' nests and four old and one new nest of the Palmer Thrasher. The entire plant was less than five feet in height.

This thrasher is a close sitter and when disturbed leaves the nest, but soon returns showing much concern. Both parents usually show up, approaching as near as six feet and uttering the usual two-syllabled call, tho sometimes using the guttural scolding note. The nest is a bulky affair but well built. The nest proper is three or four inches deep, inside measurement, and above this is a superstructure or rim from two to three inches high. Several nests seen measured over six inches deep. Rather coarse twigs are used in the construction and the lining is mostly of

rootlets, tho some fine bark, hair or feathers may also be seen in some of the nests. The bird is not too proud to use a foundation already laid, as three nests were found built right on top of old Cactus Wrens' nests. The eggs are quite uniform in size, shape, color and marking, and are much larger than those of the Crissal, tho the birds do not differ much in measurement.

The Bendire Thrasher (*Toxostoma bendirei*) in nesting, as in song, showed more individuality. The eggs showed great variation in size and shape, but the most marked difference was in color and marking. The ground color was all shades between clay color or drab and light green; and the markings from fine specks to almost blotches, of many indeterminate shades. A great range in choice of nesting sites was noticed. Of the thirty-nine nests, thirteen were in *Lycium* bushes; three in mistletoe, in mesquite and catsclaw (*Acacia greggii*); three in palo verde, two in catsclaw, two in *Sarcobatus*, one in screw-bean, and one in a salt-bush. The average hight was five feet, and the extremes three feet and ten feet. Two nests, deserted as far as the thrashers were concerned, were found, each containing an egg of Gambel Partridge. This thrasher nests a little later than the others, the date of first nest and egg being March 7. In March I found seven nests; in April, twenty; in May, ten; and in June, two. The latest date was June 10 when a nest with one fresh egg was seen. The sets were mostly of three eggs, eighteen of that number being found. Only two sets of four were seen and several completed sets of two eggs were noted.

The nests are much finer in material and workbirdship than those of most thrashers. They are smaller, more compactly built and very symmetrical in their cupped shape. Finer twigs are used in the outside and they are fitted closely together. The lining is variously composed of horse-hair, thread, twine, pieces of cloth, grass, weeds, rootlets, fine bark, wool and cotton from bedquilts, etc., etc. Most of them contain more or less horse-hair, and if near an Indian home, as is often the case, twine and material from the bed covers enters largely into the lining. One nest I noticed was built against a Verdin's nest, the wall of the latter in fact forming part of one side of the thrasher's nest. Both nests contained eggs, so the proprietors were on very neighborly terms, even tho I could discover no doorway between the apartments. The Bendires are rather shy about the nest, leaving quietly before a near approach is made. Very few of them show any concern about the nest tho exceptions were noted. The first nest I found was of uncertain identity so I decided to wait for the bird's return. No bird appeared close enough to the nest to prove ownership and I had to make the third visit to the nest before Mrs. Bendire Thrasher was seen leaving home.

The three species seem to get along peaceably together. I found nests of Palmer and Crissal in shrubs only twelve feet apart and a Bendire's nest only a short distance away.

As stated before, the Leconte Thrasher (*Toxostoma lecontei*) seems rare here. One nest was found in a palo verde and contained two half grown young. Two old nests were found in chollas. Their nests are unmistakable to one familiar with them and all had the same lining, a felted composition of a small woolly plant. All the nests I have seen in California had the same lining so when I saw a similar nest here I did not need to await the bird's return. I did so, however, and the Leconte returned to feed the young, but hastily left when I was discovered.

Sacaton, Arizona.

NOTES ON *PARUS RUFESCENS* IN WESTERN WASHINGTON

By J. H. BOWLES

THE pretty little Chestnut-backed Titmice are resident thruout the year almost anywhere that they may be found. Altho nowhere very plentiful, they are most abundant on the west side of the Cascade Range, only a few scattered pairs ever appearing on the eastern slope of these mountains. In fact in four trips thru the eastern part of the state my only record is of a pair that I found with their nest and six eggs a short distance from Lake Chelan, in Chelan County.

In the vicinity of Tacoma these chickadees may perhaps be found in their center of abundance, but even here they are extremely local in their distribution. On the east side of the city lies the Puyallup Valley, a fertile river bottom clothed with willow and cottonwood and running thru fir-clad hills. To the west of the city is the dry, pebbly prairie country, dotted more or less thickly with small and large patches of fir timber, with here and there a fresh-water pond or small brook. In the former locality I have only a few records for these birds, taken only in winter, but in the latter section they may be found in comparative abundance at any season of the year.

In the winter they generally travel in large flocks, seldom associating with the Oregon Chickadee (*Parus atricapillus occidentalis*), but choosing for their companions the Western Golden-crowned Kinglets (*Regulus satrapa olivaceus*) and Red-breasted Nuthatches (*Sitta canadensis*). It is not unusual in winter to see flocks of a hundred or more of the three species above mentioned, busily searching for food thru the dense fir forests.

At the approach of the nesting season the Chestnut-backs retire to the most arid section of the country to be found, the more exposed it is to the sun the better, and it is only in such locations that one may ever expect to find them during the breeding season. The nesting site is chosen about the middle of April, most often in the dead stub of some giant fir or oak. On one occasion only have I found the nest near water, this being in a small willow on the edge of a swamp.

The birds almost invariably dig their own hole, but I once found a nest in the winter burrow of a Harris Woodpecker. One peculiarity about them, which greatly increases the difficulty of finding their nests, is that they almost never start the hole for themselves. Instead they select some place where a fragment of the wood or bark has been split away, or else they will often take the oval hole made by the larva of one of our largest beetles. These holes are not altered at the entrance in any way and, as the dead trees are full of them, it is extremely difficult to locate the one containing the nest.

The habits of these titmice differ in many ways from all others of the genus in my experience, but in no feature is this more marked than in what may rightly be termed the habit of nesting in colonies. In one locality during the spring of 1908 I found no less than seven occupied nests inside a very small area, some not more than fifty yards apart. It was in an extremely dry prairie district that extended for miles in all directions; but I found no other nests during the entire season altho the surrounding country appeared precisely the same. This colony was unusual for the reason that all the nests were very near the ground. The lowest being two feet up in a tiny fir stub, while the highest was only nine feet up in the stump of what was once a majestic oak.

The highest nest I have ever seen in the vicinity of Tacoma was twenty feet from the ground, something very unusual as the average height is not above ten

feet. In the northwestern part of the state, however, it is nothing unusual to find them fifty feet up in the giant fir stubs, remnants of long past forest fires.

The cavity is usually about seven inches in depth, seldom any more, tho occasionally much less. Almost any soft substance to be found in the vicinity is used to make up the nesting material, but there is always a substantial foundation of green moss. Cotton waste from factories, hair of cows, squirrels, rabbits and goats, and small feathers are most often used, one very beautiful nest in my collection being composed almost entirely of feathers from the Kennicott Screech Owl (*Otus asio kennicottii*). No matter how large the bottom of the cavity may be, it is always packed tight, and I have sometimes removed a nest that would easily fill both hands.

The set of eggs is generally completed by the second week of May, and the eggs commence to incubate from the time the first one is laid. This is caused largely, I think, by the bird covering her eggs with the warm nesting material until the full set is laid, which she does every time she leaves the nest. Added to this the nest is always fully exposed to the heat of the sun. Whatever may be the true reason it is always difficult to prepare a large set in thoroly satisfactory condition for the cabinet. It may be of interest to state here that I have occasionally noticed this same habit in the Puget Sound Bush-Tit (*Psaltiriparus minimus saturatus*), Tule Wren (*Telmatodytes palustris paludicola*) and Western Golden-crowned Kinglet (*Regulus satrapa olivaceus*).

Seven eggs usually make up the set, six is common, while in twelve seasons I have taken only two sets of eight and two of nine. They may readily be distinguished from those of the Oregon Chickadee (*Parus atricapillus occidentalis*), the only other chickadee in this section, by their greater delicacy in both texture and coloring. The shell is very frail, and the color is a pale milky white, dotted with light red, the markings being mostly confined to the larger end. The eggs vary greatly in both shape and size, some being shaped like a quail's egg, others like a murre's egg. This is frequently the case in the same set. The most common type has a decided tendency to long ovate; but there is such a variation that it would be hard to call anything strictly typical. Three selected eggs taken from ordinary types measure in inches .77x.47, .75x.50, and .76x.46, and an average egg would measure somewhere between these three.

The female is very brave in the defence of her eggs, and frequently cannot be made to leave the nest until it is broken open. In looking into a nesting hole that is occupied by the bird I have never been able to overcome being badly startled by the sudden flutter of wings and fierce cat-like hiss with which she dashes at the face of the intruder when he applies an eye to the entrance of her home. When she is forced to vacate, her complaints always bring up her mate, and then both birds hop about within two or three feet of the bird student, of whom they seem to lose all fear in anxiety over their treasures. Their only note of complaint is a weak, squeaking *peep*, not in the least what one would expect from a true chickadee. On the other hand they have a very pleasing and quite lengthened song, not at all unlike that of the Western Chipping Sparrow (*Spizella passerina arizonæ*). The only season at which I have heard them sing is in the spring, at much the same time as the Black-capped Chickadee (*Parus atricapillus*) has greeted me with his note of *pee-wee* in Massachusetts.

Collecting eggs of this species is most uncertain work, as, should the nest be examined ever so carefully before the eggs are laid, the birds almost invariably detect the fact and promptly desert. Added to this is the habit before mentioned of

covering the eggs until the full set is laid, so the collector is frequently at his wit's end how to proceed.

Apart from the egg collector, about the only destroyer of their homes is no other than the common black and yellow bumble bee. This insect has a veritable mania for living in holes in trees, and a chickadee nest appears to be the acme of its desires. It seems to like the nesting material and prefers the nest before the eggs are laid, but it will often drive the bird away from an incomplete set, pulling up most of the nesting and leaving the eggs underneath.

Tacoma, Washington.

OBSERVATIONS ON SOME BIRDS FOUND IN SOUTHERN MEXICO

By AUSTIN PAUL SMITH

QUITE the most satisfactory region for study of bird life that I have as yet visited, is the little State of Morelos, situated in southern Mexico. Cuernavaca, the capital, is about fifty miles southwest of Mexico City, but owing to the rough nature of the country traversed the railroad counts seventy odd miles.

Cuernavaca lies at an altitude of 5000 feet, in the Upper Sonoran Zone. The lands surrounding the city are almost entirely under cultivation, supporting various crops, but largely maize. Many kinds of tropical fruits are grown; and no adobe but what boasts an accompanying mango, or avocado. The only uncultivated spots are the barrancas, and rocky knolls. Sometimes these latter harbor abundant growth, in which the tree morning glory is, as a rule, the most arborescent member. The few barrancas to the east of the city are dry, except during the rainy months; several westward, however, contain water at all times—therefore, considerable vegetation and many birds.

Pines come to within six miles of the city limits, thus allowing a transition zone of small extent and mostly consisting of the barrancas where the streams are perennial.

As a beginning, I will name the commonest bird within and near the city. It is the House Finch of the Cuernavaca variety (*Carpodacus mexicanus rhodocolpus*). Thousands roost in the rubber trees growing in the city plaza. During the day these same flocks resort to the cornfields and hedgerows outside of town. Often I pondered on how they found an adequate food supply, as the peon and Indian need to harvest to the last stalk to insure existence. Also among the feathered kind, the House Finch has serious competition, at least during the winter, when seed-eating birds are predominant. The food, tho, of this species is not entirely seed and grain: some birds were examined that showed evidence of exclusive diet of mango buds; and one day I came upon a pair flycatching in clumsy manner. A recent shower had ushered into existence quantities of lace-winged insects that haunted the tree tops, and appearing much like fluffs of cotton when floating in and about the branches, proved easy prey even to such novices.

Two other species of finches were abundant as winter residents: Western Lark Sparrow (*Chondestes grammacus strigatus*) and Western Grasshopper Sparrow (*Coturniculus savannarum bimaculatus*). Both were about in numbers until April 15, and stragglers of each species were found ten days after that date. The Grasshopper Sparrow did not sulk in the manner so usual with it in our own country. Certain of his kin there were tho, that believed in persistent retirement, notably *Peucea botterii*. I never have been favored with the acquaintance of the

Botteri Sparrow in the United States; and if, as authorities state, it occurs only in limited numbers over the line, I can surmise the principal reason why this sparrow is noted so rarely. Besides the ground-sparrow ability to hide, they rival the wren at getting in and out of rock-piles and fences. They often attempt to sing, and then is about one's only opportunity to size them up; noting the buffy under parts, and brown-streaked and black-spotted back, which those that read this can comprehend, when I liken it to nothing so much as a well griddled buckwheat cake for color.

The jauntiest dressed sparrow that dwells about Cuernavaca suburbs is a species which I can give no common name to, unless I call it White-chinned Sparrow. Scientifically it is labeled *Aimophila humeralis*. If on the A. O. U. list, it might have gained distinction, but here has to divide honors with many interesting birds. Not listed until the early days of April, the first I ran across was found singing in an able manner. Later on, the brush along the fence rows harbored the majority. Their appearance was not a daily occurrence—a week might pass without the sight of one, tho on the alert to find them at all times. Never gathering in flocks, three or four were as many as I came across at one time. Allowing a close approach they present an elegant form, having much about them to suggest a junco, especially the members of the *J. phaeonotus* group.

Another sparrow of the same genus dwells in similar locations, but was much shyer, and less frequently observed, *Aimophila rufescens*. When I secured my first specimen, imagination pictured an overgrown Scott Sparrow with Pipilo tendencies. Several miles from town was a secluded and deep barranca, the bottom of which was covered in places by fallen leaves, from trees growing on the rough sides of the barranca. These formed deposits, often knee-deep, that were the special delight of *A. rufescens*. Here they would scratch and delve for worms, that must have occurred numerously, for as a rule appetites were soon appeased and scratching for the pleasure of noise superseded eating. During the latter part of the performance the clickity-clickety note of the bird was uttered. To observe them I had to use great circumspection in approaching, for if alarmed they would seek refuge in the crevices of the rocky sides of the barranca, where it was impossible to dislodge them.

The same barranca harbored a few paltry individuals of *Delatiria henrici brevirostris*, a very large hummingbird with a rose gorget, somewhat resembling the Blue-throated Hummingbird (*Caligena clemenciae*) of the same territory, but of a little higher altitude. I cannot recall meeting a Blue-throat under 6000 feet, but from that elevation up they could be found in small numbers. A blue *Salvia* was a favorite flower of this dark giant, and the lure of the plant caused this hummingbird to be very indifferent to human presence at such times. A low, soft pit-pit-pit, slowly uttered, was about their only vocal effort; and this was smothered at times by the heavy hum of the wings. Several species of hummingbirds occurred in numbers in Cuernavaca gardens. Probably the Blue-headed (*Cyanomyia verticalis*) could be classed as most conspicuous, owing to size, and immaculate underparts. Consequently, casual observers might overlook the plain little *Phaeoptila sordida* of equal abundance, and generally associated with the Blue-crowned. Liliputian in size, but with proclivity for fighting that made him master of Hummerland, was the Lucifer (*Calothorax lucifer*). The Devil ought to be proud of his own; scrapping is the Calothorax emblem, and to find a quiet member was the exception. Lucifer Hummingbird was about the city during January and February, but disappeared about March 6. when I imagined they sought higher country.

Besides the various species of hummingbirds always around flowering trees and shrubs, there were usually several orioles about every native's garden. A dozen Wagler Orioles (*Icterus wagleri*) would now and then assemble in a single tree. It is a longer and more slender bird than any of our North American species. Likely enough this is owing to the habit of most of the tropical Icteri of feeding on the minute insects, attracted by nectar of flowers. All examples of *I. wagleri* secured had the bill and most of the head covered by gummy exudations from the flowers they foraged off. Not more than one male bird in five wore the full plumage, and these were considerably shyer than the younger birds. Scott Orioles (*Icterus parisorum*) appear this far south, altho I presume in limited numbers, as I met with but one, an adult male in January. The Hooded Oriole (*Icterus cucullatus cucullatus*) is resident in fair numbers, but in nothing like the abundance of Wagler Oriole. A few *Icterus c. nelsoni* winter here, as several specimens were taken. In the pines and upper barrancas, Bullock (*Icterus bullocki*) was the only Oriole during the winter months: extremely abundant above 6500 feet, frequenting the great rubber trees of about this altitude, in company with the Orange-headed Tanager (*Piranga bidentata*). Keeping, as both did, to the highest portion of the trees, differentiation between the two was difficult. Several Bullock Orioles lost their lives by my mistaking them for Tanagers.

The Tanager just mentioned is a fruit-eater, not alone taking toll of wild fruits, but of cultivated trees as well. Sometimes a flock of twenty or more will settle down upon a peon's garden, and no doubt were it not for the family vigilance few mangoes or sapotas would survive the onslaught by this handsome species. A few Cooper Tanagers (*Piranga rubra cooperi*) added color to the transition zone. The pines sheltered many Hepatic Tanagers (*Piranga hepatica*), none at this time in high plumage.

The Tyrannidæ seems to be the leading bird group in lower Mexico. It is as a family certainly much more in evidence than either finches or warblers, when all life zones are considered. The most barren spot is the home of the Vermilion Flycatcher (*Pyrocephalus rubinus mexicanus*), which frequents, too, the habitation of man. Conditions of life make the native Mexican home a haven for flies, fleas and lice. That is the reason you so often find this exquisite creature perched upon an adobe roof, or near-by pig-sty. They also find the cultivated plots fine hunting ground, particularly during the dry months, when grasshoppers of great size swarm. It is certainly interesting to watch a three-inch grasshopper disposed of by a six-inch Vermilion.

You cannot be in these parts long before you detect a very peculiar bird note, the author of which may perhaps be detected in the nearest tree; for the Beardless Flycatcher (*Camptostoma imberbe*) is of a friendly disposition at times. Impressions of early acquaintance would class him as a Flycatcher, Vireo, or Titmouse, dependent upon his action at the time of your observation. The flycatcher nature is less in evidence than the other two. In many instances have I watched this mite simulate the Vireo's habit of branch inspection, in the same time-careless manner. And again, I might be startled by a titmouse-like note from the brush near at hand, only to discover a chickadee-mimic in *Camptostoma*. Where observed following the Tyrannidæ instincts, it was from the tops of the tallest trees, when it remained very quiet. I found it the premier seed-eater of the family. The birds' notes are somewhat complex; my translation is seetee-tee-tee-tee, often kept up continuously for five minutes.

In the clumps of original vegetation, dotting the cultivated ground, and to which I referred at the beginning of this article, one or two Wright Flycatchers

(*Empidonax wrightii*) usually held forth during my stay. Here too I could find Mexican Crested Flycatchers (*Myiarchus mexicanus*) and Ash-throated Flycatchers (*Myiarchus cinerascens*); also examples of *Myiarchus nuttingi inquietus*. For a quiet Flycatcher I would choose the Fulvous (*Empidonax fulvifrons*). It found a citadel in the rushes that grow along the small irrigating canals. Now for contrast, I am naming a very noisy bird, *Tyrannus crassirostris*, a Kingbird with enormous bill, and pugnacious disposition; enough to make life strenuous for all hawks and ravens within its habitat. *T. crassirostris* prefers watered barrancas, where both it and the Giraud Flycatcher (*Myiozetetes similis superciliosus*) were nesting by the last of April. The Giraud Flycatcher is one of the few prominently marked members of this family, and has an individuality that cannot be forgotten. You need a side view, with crest erect, to judge it right.

Enumerating some of the other Flycatchers I met with, there were the Cassin Kingbird (*Tyrannus vociferans*), found everywhere except in the pine region; Western Kingbird (*T. verticalis*), occasional; *Sayornis nigricans*, the only Phoebe met with; *Myiochanes richardsoni*, favoring willow-thickets; and the Querulous Flycatcher (*Myiarchus lawrencei querulus*), of the pines. This zone is much frequented by the Brown Flycatcher (*Mitrephanes phaeocercus*), altho it is equally abundant in Transition. Thruout its habitat, the more open spots are favored; often sharing the field or glen with Hammond Flycatcher (*Empidonax hammondi*), and Western Flycatcher (*E. difficilis*). There was a week in February, when these three species associated in enormous numbers—greater than those of the other feathered creatures combined. *Mitrephanes* is sociable for a Flycatcher. I think they have cast aside that solitary disposition, notorious in the smaller tyrants. Always appearing in pairs or more, they take advantage of a sunlit spot in the forest, when the plumage will strike the eye as dull crimson, rather than brown. The under mandible is very distinct on account of the wax-yellow color.

A peculiar, small member of the present family, confining its operations to the larger trees in the most dense growth of higher barrancas, was identified by Mr. Nelson as *Myiopagis placens* but near *M. jaliscensis* of western Mexico. It bears a concealed yellow crown mark; and among the trees, appears decidedly like a Vireo.

Very few of us contemplate a trip to Mexico, without forming a determination to see the Motmot (*Momotus mexicanus*). The resolve is usually consummated, as the bird is well distributed in the land. Many peculiar traits create for it an interest never dulled by time or distance. Whatever you see when locating the Motmot for the initial time, will never fit itself into any bird family you are versed in. So naturally, identity is achieved thru elimination.

Motmots are quiet birds, notwithstanding their vocal possessions; sounding notes to my ear suggestive of rattling shutters. It was seldom that I found any near the city; but tramp a mile or two out, away from man and habitations, find some miniature arroyo, with a dozen or so scrubby trees grouped about, and you generally find *Momotus mexicanus*. It is a pretty hard proposition to secure an allround inspection of one. Whatever ruse is attempted to gain a front view, it ends in failure. The back of the bird is always the portion of the subject within the range of your eye. Contented be: note the large head; apparent lack of neck; slim body and long tail; and, if you have a near view, the bill with saw-edges—an instrument fitted to perfection for holding the great bugs so numerous in tropical regions. Their food in part is flies, moths, katydids, and stray grasshoppers, and never causes our subject much concern. Deliberate in preparation, his execution is as the lightning. Should one alight breast toward you after a catch, it is but the fraction of a second, ere the position be reversed.

I camped for some weeks during February and March in one of the large barrancas, at an altitude of 6500 feet. This barranca was deep and narrow near the site of my tent, and it would be several hours after the sun rose before it reached this spot.

Arising at daybreak, I would make haste to complete my ablutions, at a nearby pool, so as to avoid the chill that was very noticeable at that hour. Little life was in evidence so early, but one species of bird there was that always preceded me at that pool—the White-eared Hummingbird (*Basilinna leucotis*). Here I would find it bathing or else feeding on the nectar of pink-flowered Begonias, that grew with ferns in profusion thereabouts. How distinct the white superciliary line appeared in the dim light! Often they lit on a fern frond within five feet of me, searching the plant most thoroly while perched thus. Later, as the day advanced, they could be found the length of the barranca, feeding from the lowly Cuphea to the great *Fuchsia arborescens*.

Bell Warblers (*Basileuterus belli*), I found favored the vicinity of that particular pool, where a large quantity of brush debris had accumulated. To attempt to uncover one by beating the brush was always unsuccessful as they act much like a Yellowthroat under the circumstances. However, keeping quiet a few minutes will reassure them, and emerging, they sound their clarion notes: wren-like chips, most barbarously tuned when chasing their own kind; intensely quarrelsome birds, in what I took to be the breeding season; never resorting to high bushes or trees, when under my observation. Duges Warbler (*B. rufifrons dugesi*) looks like a twin brother of the Bell Warbler but is blessed with a quieter nature and more confiding disposition. Rarely found within the zone of *B. belli*, preferring more open situations from 6000 feet altitude down, it was the only common Warbler about the city during the months of my visit.

Several miles out from town, was a most barren piece of ground, that lacked every sort of vegetation, except that within a small depression there grew a forlorn little cedar by the side of a huge rock. Here, a Duges Warbler dwelt contentedly—without kin—in fact all feathered creatures but he, seemed to shun the spot. The bright chestnut-colored head, and clearly defined yellow and white underparts allowed of sure identification.

There was only one place where I met a Yellowthroat (*Geothlypis trichas*, var.?), that spot an irrigated meadow near town. One end was kept very wet, and here the grass grew rank and lush. But I did not secure the bird and the variety remains in doubt. Forms resembling the Yellowthroat, I did obtain there, and found to be Rio Grande Yellowthroats (*Geothlypis poliocephala*). Their numbers were quite limited.

The submerged end of the meadow was grazed upon by cattle, and these in turn, attended by numerous Groove-billed Anis (*Crotophaga sulcirostris*). These Anis spent their time hunting over the animals' hide, and in the long grass, perhaps for ambitionless ticks. I think I might call them the thinnest species in existence! The Ani's movements remind one of long-tailed Grackles, and they have the same manner of spreading the tail.

I do not know if the Morelos sun ever shines on our robin of the north, but it can claim a relative in *Planesticus tristis*, called Gray-breasted Robin in ordinary venacular, I believe. Do tropical conditions account for his superior voice? Anyway they have an advantage over our robin in singing. The song is of a different pitch—finer wrought and better strung. Why this southerner should be named *tristis*—"sad"—I cannot explain. Sing very late in the day it surely does, but the song has no melancholy suggestion. In fact, it is a most pleasant diversion in a

still barranca. How I detested to hear the harsh call notes of the bird, tho, particularly on the occasions when they would mix them with their song. Gray-breasted Robins are active until after whippoorwills and owls stir forth; flocking into the barrancas in the late afternoon, and remaining for the night, and ascending to the pines to feed at daybreak.

There are several bird families in Mexico having no representatives in the United States. One of these groups is the Woodhewer. The only species I have met with is *Picolaptes leucogaster*, inhabitant of the heaviest growth in the barrancas in Morelos. In recalling my first individual, I can see a gigantic brown creeper ascending the trunk of a large tree sheltering my tent. The White-bellied Woodhewer is tolerably abundant in suitable situations within the area treated in this article, altho by reason of their solitary disposition, estimates might show otherwise. Woodhewers were located more than once by the sun playing on the plumage, which is rich brown above, brightest on wings and tail, with blackish crown, spotted buff and white. Altho superficially the bird much resembles a brown creeper in form, its actions and movements are quite different. I cannot recall ever having observed a Woodhewer ascend a tree in the spiral manner, characteristic of *Certhia*; nor have I noted it near the base of a tree. Seldom alighting lower than twenty feet from the ground, a rapid ascent to some favored limb is made; and should the branch happen to be horizontal, they work with as much ease on the under, as on the upper surface. Their long, curved, extremely narrow bill, greatly facilitates search in the particular field of their endeavors—narrow cracks, small knotholes, and the like. The bill is available in any position, be the directing movement vertical or horizontal, or a combination of the two. Their notes are of four or five syllables, of moderate volume, rendered like tree-e-e-e, and uttered just before leaving their position. The nesting was in progress during February, and few females were secured.

Another tropical family represented in that State is that containing the Trogons. I met with a red-billed species, *T. mexicanus*. They are plentiful, but are not conspicuous birds, for all of their brilliant raiment. First suspicion of this species' presence was caused by discovery of bright-colored feathers of peculiar texture, scattered about under such trees and bushes as produce fruits or large seeds. Just a little search and you will find the Mexican Trogon nearby. But I do not mean that it is a stolid, indifferent bird; quite otherwise, and must be approached with caution. They partake in equal quantity of insects and fruits. When feeding, a short note like kee-kay is used; at other times a variety of calls; for instance, a measured cow-cow-cow; and a set of notes in capable mimicry of the Turkey.

A natty attired sparrow about camp was *Buarremon virenticeps*; but let us call him Green-headed Towhee. It is of good size, eight inches or so, but with feet fit for a bird much larger. These feet are the noise-makers, not the weak suggestion of a chirp, always uttered when out of sight. I attempted to gain their confidence, but was never quite successful, even when patience was abundant. The Green-tailed Towhee (*Oreospiza chlorura*) reminds me of *B. virenticeps* so much that I will mention it in connection. Avoiding the timbered regions I found it about the city hedgerows after March 12, and altho the last record for the species in my journal is April 16, I feel sure that I saw it as late as May 1 in the company of Western Vesper Sparrows.

Warblers have many representatives wintering in this section, and some resident species, too, so I will group them, as with the Flycatchers, excepting two species of *Basileuterus* already discussed. The Red-bellied Redstart (*Setophaga*

miniata) was one of the commonest of Transition Zone birds. It might be advertised as a Painted Redstart, with toned-down movements and different note: a clear tzee. A few Painted Redstarts (*S. picta*) were seen in company with the above.

Various warblers were found in flocks composed of many species of insect-eating birds, such as Vireos, Kinglets, Flycatchers, Gnatcatchers and Tanagers. Two species that congregate thus are the Red Warbler (*Ergaticus ruber*) and Red-faced Warbler (*Cardellina rubrifrons*). Both are sprites of lasting beauty. The Red Warbler is deliberate when working, searching the more open parts of the tree; while the Red-faced keeps better hid, and searches in a hurried manner. The number of individuals of the Red Warbler were few when compared with the Red-bellied Redstart, or Red-faced Warbler. The highest parts of trees sheltered, during February, large numbers of Townsend (*Dendroica townsendi*), Audubon (*D. auduboni*), Black-throated Green (*D. virens*), and Hermit (*D. occidentalis*) Warblers. Many of the Hermit Warblers were then in breeding plumage. As soon as the barrancas were left, going toward the town, species like Black-throated Gray Warbler (*D. nigrescens*), Tolmie Warbler (*Geothlypis tolmiei*), and Pileolated Warbler (*Wilsonia pusilla pileolata*) were in evidence. Yellow Warblers (*Dendroica aestiva*) wintered in and about the city. The Lutescent Warbler (*Helminthophila celata lutescens*) was general at all altitudes within our scope.

The Cactus Wren genus (*Heleodytes*) is represented here by the Huitzilac Wren (*H. megalopterus*), found in the Transition Zone. The pattern of plumage is much like that of certain Woodpeckers, and an aptitude for climbing make this similarity still more apparent. In scaling a tree they will climb for five or ten feet, then inspect the surrounding growth, be it moss-covered trunk, branch, or leaf; and after a brief inspection pass on to repeat the movements. Fully-fledged young were secured February 18. These were still being fed by adult birds. Another resident wren is *Pheugopedius felix grandis*, or Morelos Wren, found most anywhere below the pine region. An ancient lava flow, five miles east of Cuernavaca, that is covered by dense brush, is a very good place to meet with it. They are great singers, like most wrens. Specimens secured vary considerably, and no doubt are near the true *P. felix*. Many Mexican Canyon Wrens (*Catherpes mexicanus mexicanus*) and a very few Mexican Rock Wrens (*Salpinctes obsoletus notius*) were found within the territory covered by this article. House Wrens are referable to *Troglodytes aedon aztecus*, according to Mr. Nelson, after examination of examples of specimens obtained. They were very numerous in the rubble fences of the open country.

The Colaptes of the region is the true *C. cafer*. It and the Yellow-breasted Sapsucker (*Sphyrapicus varius*) were the only Woodpeckers met with. Such Sapsuckers as I shot were in emaciated condition.

Neither Jays nor Titmice came often about my camp. The Jay is *Aphelocoma sieberii*; the Tit, *Baeolophus wollweberi*. When the Jays were in evidence I usually found the Titmice in their wake.

Crepuscular birds were the Texas Night Hawk (*Chordeiles acutipennis texensis*), in the immediate vicinity of the city; and higher up, above 6000 feet, Whip-poor-wills (*Antrostomus vociferus*). One or two Poorwills (*Phalaenoptilus nuttallii* var?) were heard.

Why I failed to find pigeons in the mountains is a mystery. The cultivated sections entice large flocks of Mourning Doves (*Zenaidura macroura carolinensis*), and lesser numbers of White-winged Doves (*Melopelia leucoptera*). The almost domesticated Mexican Ground Dove (*Chamæpelis passerina pallascens*), with the long-tailed Inca Dove (*Scardafella inca*) are about every dwelling. Unfortun-

ately, all four species are considered game by the inhabitants, and only lack of firearms, and poor marksmanship, allow the birds to hold their own.

The most valued cage bird in southern Mexico is *Melanotis caerulescens*, a songster that cannot be excelled; also with great ability as a mimic. It must thrive well in captivity, from the numbers possessed by the people. Personally I never found it in numbers sufficient to call common, only running across them now and then in the heaviest of stream-side growth; the clue to its presence was usually the song.

The Solitaire of this region is *Catharus melpomene clarus*. It is another wonderful singer. I have heard it in a high and narrow barranca, where the tones were confined and producing effects that I wish all readers of this could share with me. It is a shy thrush and keeps to cover much, but can be easily recognized by the bright orange bill and golden brown upperparts.

The Western Mockingbird (*Mimus polyglottos leucopterus*) is a native. But they can poll nothing like the numbers that they occur in over the United States border. It frequently loses its liberty in order to adorn some rude wooden cage.

Bird catching is an industry not to be scoffed at in Mexico. Many species are trapped. Even the Cedar Waxwing (*Ampelis cedrorum*) must pay tribute during the short time it spends here. Occurring in flocks of a hundred or more, they are easy victims for trappers. Their monetary value is small, owing to inability to live in confinement for more than a few days. I was offered a pair for thirty-five cents, Mexican currency. Already the length of this article precludes reference to the Raptorees and water-birds I met with. In closing, however, I do intend to make mention of a real game bird, *Colinus graysoni nigrippectus*—a true Bobwhite. Unlike our native kinds they seldom seek brush cover, preferring the open fields, where nothing could be more inconspicuous, the plumage blending perfectly with the brown earth. A hard bird to flush, they will fly but a short distance, then alight, to repeat the tactics again if necessary.

The Bobwhites of the *C. graysoni* group are black-chested birds; in this variety the throat is white with black chin. The natives are not very well acquainted with it; and I found none in captivity. It probably never could be as popular a game bird as our eastern Bobwhite, owing to the difficulty in securing it, together with its moderate numbers.

Acknowledgments are due Mr. E. W. Nelson and Dr. C. W. Richmond, of the United States National Museum, for identifying many of the species named in this article.

Brownsville, Texas.

FROM FIELD AND STUDY

Chestnut-sided Warbler at Sherwood, Mendocino County, California.—While collecting at the above place in the fall of 1908, I secured on September 21st a Chestnut-sided Warbler (*Dendroica pensylvanica*), juvenal male. It was taken in a pine tree in the edge of the redwood forest and was apparently alone, as no other was noticed. The skin is now in the collection of Dr. L. B. Bishop, New Haven, Connecticut, who identified it, and believes it to be the first record for the State.—HENRY W. MARSDEN, *Witch Creek, California*.

An Ancient Murrelet at San Pedro, California.—On January 23, 1908, I went to San Pedro and spent about an hour on the beach looking for dead birds which had been cast up by the recent storm. I walked about a mile toward Long Beach and in this distance I found several Rhinoceros Auklets (*Cerorhinca monocerata*), several Cassin Auklets (*Ptychoramphus aleuticus*), one Sanderling (*Calidris leucophaea*), one Xantus Murrelet (*Brachyramphus hypoleucus*) and

two Ancient Murrelets (*Synthliboramphus antiquus*). I think this last is a record for San Pedro, as Mr. Grinnell informs me that this is the second record south of Santa Cruz Island, the other being a pick-up near San Diego.

These birds were badly stained with crude oil. I had great difficulty in removing it from an Auklet and an Ancient Murrelet which I saved. I used gasoline for cleaning, without injury to the feathers. The Sanderling was without wings, so was probably killed by some hunter. The other birds were apparently killed by the storm.

On February 8 I went down again and found two Brandt Cormorants, three Surf Scoters, one Ancient Murrelet, one Xantus Murrelet, one Cassin Auklet and one Rhinoceros Auklet. All



NEST AND EGGS IN SITU OF TOLMIE WARBLER IN MARIN COUNTY
Photographed by Joseph Mailliard

but the two Cormorants and one Scoter were in an advanced stage of decomposition and may have been a part of those observed on January 23. The Cormorants were the only ones free from oil.—HOWARD WRIGHT, Pasadena, California.

Nest of the Tolmie Warbler.—Mention is often made—as, for instance, twice in THE CONDOR, Vol. X, No. 4, by Gilman writing of New Mexico, and Rockwell of Colorado—of localities where the Tolmie Warbler is abundant, or at least common, in the breeding season; but it has never been my fortune to visit such a spot. Most of my observations on this species have been made at San Geronimo, Marin Co., California, where a few, a very few, pairs breed each year. The shyness of these birds and their habit of building near the ground in thick vines, in bunches of wormwood or thick clusters of tall ferns, make the discovery of a nest with eggs a

difficult matter, especially as they will abandon an uncompleted nest under very slight provocation. Those containing young are, of course, comparatively easy to locate by watching the parents carrying food. Most of my "finds" of this species have been entirely accidental.

The nest shown in the accompanying photograph was rather remarkably situated, and found as usual by accident. Altho these birds are naturally extremely retiring in their disposition, this nest was inside the right of way of the railroad running thru the Rancho San Geronimo and only about twenty-five feet from the track over which four or five passenger and freight trains passed each way every day. We use a wire of the railroad fence for telephonic purposes, and in the spring, when the growth of vines is especially rampant, we have more or less trouble from the grounding of the current by the vines coming in contact with the wire.

In the present instance, while driving along the county road parallel to the track, some three miles from headquarters, I noticed that some wild cucumber vines had clutched our wire in their disturbing embrace, and I jumped out of my buggy to remove them. This nest was on the farther side of the right of way, and it was in crossing from the track to the fence beyond that I flushed the parent by almost stepping on it. Quite a stream runs parallel with the railroad here, and some willows growing on its bank overhang the fence. The nest was placed near the ground in a low patch of wild blackberry vines under the edge of these willows. The instant the parent flushed I drew back and hid, waiting for her to return to the nest. She flew into the willows where she was soon joined by her mate, and their note—so much like the warning "twit" of the California Partridge—was repeated anxiously many times as they hopped about the neighboring trees before they were sufficiently reassured to return to the nest. Finally, however, the female edged toward her particular blackberry bush and all became quiet.

Except for the danger of having one's paraphernalia disturbed by the passing public this would have been an ideal place for a series of photographs as soon as the young were hatched, especially as the birds must have become used to more or less disturbance in such a noisy spot; but unfortunately my time was too much occupied to make the trial. The day after this discovery I brought my camera along with the result herewith submitted. It was necessary to cut away some of the vines on the camera side before the nest could be focussed, as it was practically hidden from sight.

It is more than possible that the noise of the passing trains had made this pair of birds bolder than the majority of their kind, as otherwise it is extremely improbable that they would have returned to their nest at all after the rude disturbance of a full grown man crashing thru their blackberry patch. The necessity of further disturbance from cutting away and disarranging the vines about the nest was too much for them, however, and the set was added to our collection. It was taken May 7, 1908; No. 4000-5-08, collection J. & J. W. Mailliard; incubation one-third. Nest composed of dry weeds and weed bark, lined with a few fine rootlets and a little horsehair; diameters 4 and $1\frac{3}{4}$ inches, depths $2\frac{3}{4}$ and 2.—JOSEPH MAILLIARD, *San Geronimo, California*.

The Status of the Hutton Vireo in Southern California.—I have come to the conclusion that *Vireo huttoni oberholseri* does not exist as a race separate from *Vireo huttoni huttoni*. And this, too, after my attempted demonstration to the affirmative conclusion (as presented in THE CONDOR VIII, November, 1906; pp. 148, 149)!

My reversal of opinion is due to the acquisition of more material from southern California, the most valuable of which in this connection are birds in fresh fall plumage from Orange County, and a number of additional specimens from San Diego County. My former statement that the only then available San Diego County example (taken in March) was exceptionally "leadened" was perfectly true. Furthermore I have at hand thru the courtesy of Mr. F. Stephens, three May examples from Witch Creek, the type locality of *oberholseri*; and three more June birds (adult) from the Santa Rosa Mountains. These are all quite appreciably paler than June and July adults from the vicinity of Monterey, the type locality of *Vireo huttoni huttoni*. But (and here is the crucial test) the September birds from Orange County (just as with those from Los Angeles County, as I previously pointed out), and which are in full, fresh plumage, are of exactly the same tints throat as equally unworn birds from Monterey, Palo Alto and the Santa Cruz Mountains. (It must, of course, be borne in mind here that there is but the single annual molt in this species, in August.) Furthermore (and this clinches the evidence) an adult specimen (No. 2401, U. C. M. V. Z.) from the Santa Rosa Mountains is even paler than any of the Witch Creek birds; yet among the prevailing worn, light-colored feathers of the back are to be seen, just appearing, two or three bright green new feathers of the precise tint of the corresponding feathers in the new-plumaged Monterey birds.

The deduction from this is that the character of *oberholseri*, paleness, is adventitious and due to the greater rate of fading and abrasion to which the southern California birds are subjected.

The atmospheric dryness makes the feathers more brittle and hence hastens the disintegration process resulting from attrition. The more intense and long-continued sunlight bleaches the colors at a greater rate.

The moral again, repeated here for the sake of emphasis, is that the true color characters of birds must be sought in freshly acquired plumages, and not in the "breeding dress" (often in a dilapidated condition) as has been so universally insisted upon.

The above contention that *oberholseri* is not after all a phylogenetic race, is not at all an argument against the recognition of minute differences in nomenclature, as would apparently be urged by Linton (cf. CONDOR X, July 1908, p. 181; and Kaeding, *idem*, XI, January 1909, p. 32), but rather points toward the need for greater care in discriminating subspecies.—J. GRINNELL, *University of California, Berkeley, California.*

The Early Western Surveys.—In Mr. Rockwell's interesting paper on "The History of Colorado Ornithology," in the January-February number of THE CONDOR there are several erroneous citations, which, coupled with a number of similar errors recently appearing in scientific publications, lead to the belief that a general account of several of the western surveys and their publications may be timely. For those who are familiar with the publications referred to, citations are not necessary, and if the references are not correct they are worse than useless to those for whom they are intended.

In the paper just referred to, Coues' "Birds of the Northwest" is attributed to the Bulletins of the United States Geological Survey, instead of to the Miscellaneous publications of the "Hayden Survey" of the Territories; and Henshaw's reports are attributed to the same survey, instead of to the "Wheeler Survey" of the region west of the one hundredth meridian. Ridgway's report on the Maxwell collection was first published, so far as I am able to learn, in 1879, in Mary Darr's (now Mrs. Thompson) "On the Plains and Among the Peaks," instead of in 1877 as Mr. Rockwell has it. Afterward, according to Professor Cooke, it appeared in 1887 in "Field and Forest," a publication not now accessible to me. Either Mr. Rockwell's date is an error or both Professor Cooke and I have overlooked the earlier publication. However, that is of minor importance. The important item is the confusion of entirely distinct surveys.

The United States Geological and Geographical Survey of the Territories, under Dr. F. V. Hayden, began operations in 1867 and ceased field work in 1878, tho some of its publications did not appear until several years later. Its principal publications are contained in four distinct series, numbered separately, i. e., Bulletins, Annual Reports, Monographs or Final Reports, and Miscellaneous Publications, in addition to some unclassified papers. Each series contains papers on both fossil and recent plants and animals, and should be carefully distinguished to avoid misleading the reader who is not thoroly familiar with them. For instance, Coues' "Birds of the Northwest" cannot be found in the Bulletin of the Hayden Survey, but is No. 3 of Miscellaneous Publications, and is not in the United States Geological Survey publications at all, altho on the title page the words "and Geographical" are omitted, the words "of the Territories," which at once distinguish it from the present survey, being retained.

The United States Geographical [Explorations and] Surveys West of the One Hundredth Meridian (title varying somewhat on different publications), under Lieut. Geo. M. Wheeler, was in the field from 1869 to 1884, its chief publications being Annual Reports, Maps, and seven large quarto Final Reports or Monographs, of which Vol. V is of most importance in the matter of recent zoology and contains Henshaw's reports hereinbefore referred to.

The United States Geological Exploration of the Fortieth Parallel, under Clarence King, was in the field from 1871 to 1878 inclusive, its chief publications being an Atlas, Annual Reports, and several large quarto Final Reports or Monographs, about half of Vol. IV being devoted to ornithology.

The United States Geographical and Geological Survey of the Rocky Mountain Region, under J. W. Powell, published quite a number of special volumes from 1877 to 1880, not numbered in a serial way, such as the "Geology of the Henry Mountains," all of them being confined to geography in its limited sense, geology, paleontology and ethnology. The publications, together with a number of reports by Powell before the organization of the Rocky Mountain Region Survey, are briefly referred to as the Powell Survey Reports.

The foregoing were all western surveys, Hayden and Powell reporting to the Secretary of the Interior, Wheeler and King reporting to the Secretary of War, in accordance with the statutes under which they operated, and were entirely distinct surveys, tho their work to some extent overlapt. In 1879 the present United States Geological Survey, under the Interior Department, began operations; some of the other organizations at once, and all eventually ceasing field work. At the present time nearly all of the strictly geological and paleontological work of

the general government is carried on by the United States Geological Survey, its publications consisting of quite a number of distinct series, numbered separately, such as Annual Reports, Bulletins, Monographs, Professional Papers, Atlas Folios, etc. Since the organization of this survey, the work of the general government in recent botany and zoology has been carried on by the various bureaus of the Department of Agriculture, the National Museum and Smithsonian Institution, the incidental references to recent species become somewhat prominent in such Geological Survey papers as Dr. Arnold's "The Tertiary and Quaternary Pecten of California."

A complete set of the publications of these various surveys constitutes a good sized library, and unless reference to them really points one to the volume intended it would perhaps better be omitted altogether and thus avoid confusing future naturalists and bibliographers and sending them on "wild goose chases" similar to those from which some have recently returned. Anyone who expects to find Coues' "Birds of the Northwest," or Lesquereux' monographs, or Coues and Allen's "North American Rodentia," or Whitfield's report on Black Hills paleontology, in the publications of the United States Geological Survey, is doomed to disappointment. Let's all be careful with citations or omit them.

Bulletin No. 222 of the United States Geological Survey is a very useful table of contents and generalized index of the King, Hayden, Powell and Wheeler publications.

I have said nothing of the Pacific Railway Survey and earlier explorations, because there seems to be no confusion concerning them.—JUNIUS HENDERSON, *Boulder, Colorado*.

Winter Observations in Oregon.—The recent winter has been, for Oregon, one of great severity. The Willamette valley birds were given a sample of real winter; it came in the shape of a snow storm. An excellent opportunity was presented to the city man for bird study, for birds came to the towns in great numbers in search of food. Our usual winter friends of the wood were much in evidence and we were surprised to see, also, many of the birds which do not usually arrive until the spring. I had the pleasure of seeing birds whose habitats are far removed from each other eating crumbs together in perfect harmony. The Flicker came from the depths of his woody retreat to partake of a meal in company with a Meadowlark from the fields.

Chattering Juncos in sudden flurries swept continually by, and the dusky little Song Sparrows, aroused to greater activity than ever, seemed everywhere. Towhees and Robins were seen every now and then and a Jay or two flew over. From the nearby wood came Chickadees, Kinglets and great numbers of Alaska Robins.

The last named bird—known also as Varied Thrush, Flicker and Mountain Robin—is a most voracious fellow. Of course I opened lunch counters for the birds with the coming of the storm, and the Alaska Robins came near breaking me up in business! They prefer apples but there are few bird stuffs which they reject. The Flicker is a queer looker: that is, one cannot tell where he is looking because of a patch of black which surrounds the eyes making those organs invisible to us. The bird resembles the Robin in having a red breast. The male has, like the Woodpecker, a black crescent upon the breast, the neck is brownish yellow and the wings mottled, yellow and black.

It seemed surprising to see our usual summer birdlife here in the depth of winter. Larks drifted in by two's and three's and Horned Larks in bands. But the merry Lark was merry no longer nor did he soar as poets would fain have him to do: he was but a very cold and hungry bird. The Horned Larks trotted, quail-like, about the streets giving their short, unmusical call. The cold made these naturally shy birds almost fearless. Many persons did not recognize this bird as our summer friend. It scarcely looked familiar, we must admit, for the feathers were ruffed up and wings partly extended because of the cold. In summer the bird presents a most spick and span appearance.

Some of the Larks sat apart with heads wellnigh hidden in their bodies, looking most dejected. Not a few birds perished. Great numbers of quail have died. Alighting in the soft snow the birds could find no footing whence to spring out and so floundered about until frozen. Before the snow went off, however, sleet fell, and this, crusting the snow, undoubtedly saved many bird lives.—EARL STANNARD, *Brownsville, Oregon*.

Sterna caspia in Los Angeles County.—December 27, 1908, while rowing in Alamitos Bay, California, I counted eight individuals of *Sterna caspia* (Caspian Tern) resting on the exposed mud flats in company with Royal Terns, Western Gulls and numerous sandpipers. Altho *Sterna caspia* could hardly be compared with *Sterna maxima* by anyone at all familiar with either bird, to avoid possible mistakes I crossed the bay and flushed the entire flock, but did not attempt to secure specimens owing to the proximity of residences—C. B. LINTON, *Long Beach, California*.

A Correction.—I note that Mr. Robert Rockwell has, in his "Annotated List of the Birds of Mesa County, Colorado" (CONDOR, July, 1908, pp. 152-180), used, without permission, a record

of mine (p. 170) pertaining to *Pinicola enucleator montana* (Rocky Mountain Pine Grosbeak). Furthermore, Mr. Rockwell makes it appear by the omission of any name in connection with the record that the record was made by himself. On July 3, 1898, the date on which he records the specimen on South Mamm Peak, Mr. Rockwell was not in that locality; for upon that date I was with him on what was at that time known as the Ballantine and Rockwell Ranch, a distance of about twenty-two miles from South Mamm Peak. The Grosbeak under discussion was shot by me on South Mamm Peak on July 8, 1898, instead of July 3 as reported by Mr. Rockwell, and was subsequently shown to him. It is still one of the specimens in my collection.—A. H. FELGER, *Denver, Colorado; February 8, 1909.*

Dendroica townsendi in Pasadena.—Townsend Warblers were common at my home in Pasadena during January, 1909. Ordinarily one or two is all I have seen during the winter, and sometimes none at all. This year, for some cause, they are abundant.

No Varied Thrushes have been seen or heard in the vicinity of Pasadena this winter. It would be interesting as in previous seasons to ascertain thru the columns of THE CONDOR the distribution of this bird.

Robins, bluebirds, and other winter visitants seem to be present in about their usual numbers.—WALTER P. TAYLOR, *Pasadena, California.*

The Zone-tailed Hawk in California.—*Buteo abbreviatus* was first known as a member of the United States fauna from a specimen taken by Cooper near San Diego, California, in 1862. Since then the species has been ascertained to occur not uncommonly in the southern portions of Arizona, New Mexico and Texas, as well as, of course, south thru Mexico to British Guiana, whence it was originally described in 1848 by Cabanis.

Cooper's specimen (perhaps first recorded in Proc. Cal. Ac. Sc. IV, 1868, p. 7) is now number 4375 in the collection of the University of California Museum of Vertebrate Zoology. Altho the stuffing has been removed, giving it a collapsed appearance, it is still quite a good skin. The original, attached label, tho doubtless considerably faded, is perfectly legible. It is of the characteristic blue, lined, ledger paper; the legend, in ink, is in Cooper's own hand-writing, and reads as follows: "761 *Buteo harlani* [the latter name crossed out in pencil and 'zonocercus Slater' written above and beyond, also in lead pencil] ♂ | 20 mi N of San Diego Cal | Feb 23d '62 J. G. C || 20.25 56.50 16.25 I[r]is red brown, Bill | black and whitish horn, cere and feet yellow."

The next record of the Zone-tailed Hawk in California was of an immature ♂ secured by C. B. Linton at National City, near San Diego, November 26, 1906. This example was originally recorded by Linton under the name "*Urubitinga anthracina*" (CONDOR IX, July 1907, p. 110), but this erroneous determination was corrected by him as soon as he became aware of his mistake (CONDOR X, July 1908, p. 181). The specimen is now, I believe, in Mr. Linton's private collection. I had the opportunity of verifying its identity, comparing it with Arizona examples of the species in the collection of G. Frean Morcom, with which it agreed perfectly.

This museum has recently acquired two more examples of this bird, one of them, number 5494, collected by W. J. McCloskey "near the coast, 30 miles north of San Diego," California, September 10, 1907; the other secured by F. Stephens from a local hunter who shot it in "April, 1908," five miles southeast of Tijuana, Lower California, which is less than twenty miles south of San Diego. The former thus constitutes the third record for the state of California.

Of the four examples above noted from the vicinity of San Diego, only the Cooper specimen is fully adult, that is, solid blackish with two-barred tail. The others have much white mottling particularly on breast and back of head, and their tails are many-barred. Mr. Stephens has kindly forwarded me two specimens taken by him in Arizona. Comparison with these as well as with those in the Morcom collection, show California examples of *Buteo abbreviatus* to be in no way different.—J. GRINNELL, *University of California, Berkeley, California.*

That Cooperative Scheme.—With the exception of a very practical article by William E. Ritter which appeared in the November, 1908, CONDOR and one or two personal letters from scientists interested in the subject, the silence following my suggestions on "a plan for cooperative ornithology" would be fairly appalling, were it not for the fact that it was more or less expected.

CONDOR readers may probably be divided into three classes in this connection, viz: (1) those who are in sympathy with the idea and believe in its practicability; (2) those who would be in sympathy with the idea if they were sure of its ultimate success; and (3) those who for various reasons do not admit its feasibility.

Obviously the latter class must be eliminated from our plans and it remains for the others to

carry thru the idea to a successful conclusion, if it is to be undertaken. It now remains to be proven just *who* among the CONDOR readers really *are* interested in the project to the extent of being willing to do some work; and the only way in which this may be found out is for those students to make themselves known and to publish their ideas on the subject for the benefit of other interested parties. There are undoubtedly many CONDOR readers who do not wish their ideas to appear in print, but who are nevertheless in sympathy with the general idea. If that is your position, dear reader, drop a few lines to the editors, just to inform us that you are interested.

An undertaking of this kind is unique in many ways. It will require the personal opinions of a great many before the plan assumes any definite shape, and it rests entirely with the readers to bring about results. This cannot be a one-man, or a ten-man undertaking, for unless the plan meets with general support it would be impossible of accomplishment.

Naturally we look to the members of the Cooper Club for the greater number of expressions on the subject, and the past record of the Club for "doing things" warrants the assumption that they will respond; but it is to be hoped that responses will not be limited to Cooper Club members.

Now, bird lovers, is the time to drop us a line outlining your views upon the subject and if the correspondence overwhelms our worthy editor we will try to arrange for a private secretary. —R. B. ROCKWELL, *Denver, Colorado.*

Random Bird Notes from Chaffee County, Colorado.—On July 15th I left Salida, Colorado (altitude 7050), for a short trip to timberline, my destination being Bass Lake, a typical alpine lake at an altitude of about 11,000 feet.

In the vicinity of Salida, Western Robins, Red-winged and Brewer Blackbirds, House Finches, English Sparrows, Western Vesper, and Western Savanna Sparrows and Black-headed Grosbeaks were very common. One pair of Kildeer were also seen, that were evidently nesting.

About seven miles from Salida I saw several young Mountain Bluebirds just able to fly, and a little further on (at about 8,000) several Magpies were seen. Camp was pitched at Poncha and the next morning, soon after leaving there, I saw several Desert Horned Larks and a Brewer Sparrow on a sage brush covered mesa. From here on, the country is very rough, the hills rising abruptly and no timber occurring except the cottonwood trees in the creek bottoms, until the top of the mesa is reached which is covered with a heavy growth of pine and spruce.

About five miles above Poncha I saw several Broad-tailed Hummingbirds in a small patch of thistles and a little farther on a Green-tailed Towhee. After a long steady climb we reached Garfield, Chaffee County, twenty miles from Salida and at an altitude of about 10,000 feet, and here I saw Gray-headed Juncos and English Sparrows feeding in the streets of the town.

We arrived at Bass Lake about five P. M. and found a very pretty lake, just at timber line, surrounded by very high mountains. From this spot half a dozen peaks in sight were over 14,000 feet high.

On the 17th I flushed a Gray-headed Junco from a cunningly concealed nest under the edge of a juniper bush. It contained four young about a week old. I saw a number of these birds around the lake but found no other nests. Near here in the down timber and rocks I found one small White-tailed Ptarmigan chick, and one Rosy Finch feeding on the shores of the lake. Three Clarke Crows were seen near the lake and on the return trip the only new bird seen was a fine Western Tanager. —JOHN W. FREY.

Unusual Wave of Western Tanagers.—Beginning April 16, 1908, there was witnessed in this section a flight of tanagers (*Piranga ludoviciana*) which seemed most remarkable for this section.

The birds were noted most commonly about a mile north of Auburn, passing by the hundreds in a westwardly direction. The sexes appeared to be evenly divided, tho as they flew from tree to tree it was the bright colored males that attracted the attention of the passer-by. At my ranch, seven miles north of Auburn, the birds were not as numerous, but for two or three weeks they kept moving leisurely westward. As cherries ripened they lingered in nearby pine trees, flying back and forth to the cherries between shots from the auxilliary. Shooting appeared not to decrease the numbers, and it was July 7 before the last bird left. Just how far west they went, and why they took this course, direct from their breeding grounds, would be interesting to know. —ERNEST ADAMS, *Clipper Gap, Placer County, California.*

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JOSEPH GRINNELL, Editor, Berkeley, Cal.
J. EUGENE LAW, Business Manager, Hollywood, Cal.
W. LEE CHAMBERS, Assistant Business Manager,
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EDITORIAL NOTES

By Executive Order No. 1019, dated February 3, 1909, the "Hawaiian Islands Reservation" was established. This national bird preserve includes Laysan, Necker, and adjacent small islands, upon which great numbers of pelagic birds nest, such as Albatrosses, Shearwaters, and Terns. Persistent rumors have circulated in the newspapers of late, to the effect that Japanese were planning to land on the rookeries to destroy every bird obtainable, the feathers to be saved for various commercial purposes and the bodies to be made into fertilizer. The fact that not a few species, which are confined in the breeding season to these small islands would thus be exterminated, makes the establishment of this preserve with little doubt the most important step, from a strictly ornithological standpoint, in the history of bird preservation in this country. The annihilation of *species* was threatened.

For the good work in securing the necessary steps in the accomplishment of this highly commendable act, ornithologists have to thank Dr. T. S. Palmer, of the Bureau of Biological Survey, and Mr. Frank Bond, Chief Clerk of the General Land Office.

It is needless to say that the laws of the United States will be enforced, as gun-boats patrol the Hawaiian waters continually.

It is hoped that, before the next number of this magazine is issued, subscribers will receive their copies of the Ten-year Index. Its compiler, Mr. H. B. Kaeding, is at work on the

revised proofs. However, Mr. W. O. Emerson, who has charge of the financing, states that only about \$100.00 has been raised, whereas the total cost of the Index will be in the neighborhood of \$200.00. This lack of financial support will be the cause of any possible delay. Such casualty *should* not occur.

One of the most enjoyable events in the history of the Cooper Club was the Annual Dinner held at the Bismarck Café in San Francisco on the evening of January 16, 1909. There were twenty-four members present, occupying comfortably the single long table in the Fish Room. Toward the close of the banquet the toastmaster, Dr. W. K. Fisher, announced that this occasion might be fairly considered as a send-off for Mr. Edmund Heller who was about to leave to join the Roosevelt African Expedition. Mr. Heller was introduced and gave an insight into the conditions under which the collector has to work in the "Dark Continent," he having already experienced them as a member of an expedition sent there in 1905 by the Field Museum. President D'Evelyn was then called upon and spoke humorously of the various activities of the Club. State Game Warden Vogelsang gave a most entertaining account of his experiences in carrying on the work of the California Fish Commission. Prof. W. E. Ritter commented further upon the good work accomplished by Mr. Vogelsang, and closed the evening's program by discussing the desirability of the establishment of a public zoological park on this coast something like that in New York City.

PUBLICATIONS REVIEWED

CAMPS AND CRUISES | OF AN | ORNITHOLOGIST | By | FRANK M. CHAPMAN | Curator [etc., 5 lines]. | With 250 Photographs from Nature | by the Author | [vignette] | New York | D. Appleton and Company | 1908. 8vo, pp. i-xvi, 1-432. (Cloth, \$3.00 net.)

Mr. Chapman's latest book is a record of adventure; it presents, too, a great amount of biographical ornithology. The combination results in a volume of extreme interest to the ordinary reader and the ornithologist alike. The photographic illustrations about which much of the narrative centers are of the highest order; they are each one illustrative of some habit or special feature in the habitat of the subject.

The matter incorporated into the "Camps and Cruises" was secured by the author during his expeditions after material for the splendid bird groups executed during the past seven years at the American Museum of Natural History. The opportunities thus afforded are here shown to have been utilized to the very best advantage.

As usual with Mr. Chapman's work the camera played a large part in his field studies. In the "Introduction" we are given new hints as to methods to be employed in securing intimate photographic acquaintance with wary

birds. The "umbrella blind" is illustrated and described as being the most successful as well as convenient contrivance yet devised for the purpose.

Among the "Part" titles, especially indicative of subject matter, may be cited the following:—The Bird-Life of Two Atlantic Coast Islands; Gardiner's Island and Cobb's Island; Florida Bird-Life; Pelican Island, Cuthbert Rookery, etc.; Bahama Bird-Life: The Flamingo, Egg Birds, etc.; Bird-Life in Western Canada: The White Pelican, etc.

Naturally of most interest to us is the Part (VI) entitled "Bird Studies in California", with the following divisions: The Coastal Mountains at Piru; The Coast at Monterey; The Farallones; The San Joaquin Valley at Los Banos; Lower Klamath Lake; The Sierras. Each of these sketches is thoroughly enjoyable and seems to be for the most part beyond any reasonable criticism.

The habit of the Northern Phalarope of securing food particles by whirling about in shallow water and thus stirring up the sediment is interestingly described (page 271) and illustrated by two photos. This significance of the Phalaropes' behavior, however, is not new, as implied, for it had been clearly set forth by D. W. Prentiss, Jr., and William Palmer several years ago. [See *Osprey*, Vol. I (new series), July 1902, p. 100.]

We are informed (page 257) that the Desert Song Sparrow "owes its colors to the direct action of the aridity of its environment, and not to a natural selection which has brought it into a fancied harmony with its immediate surroundings." The finality with which this statement is made is not at all justified by any evidence known to the reviewer. Here seems to be another case of unwarranted deduction from Beebe's meager and altogether (as fully admitted by himself) inconclusive experiments with caged birds.

Whatever of further fault can be found in minor points, it must remain indisputable that Mr. Chapman's "Camps and Cruises of an Ornithologist" is the most entertaining bird book we have read for many a year.—J. G.

CATALOGUE OF A COLLECTION OF BIRDS FROM GUATEMALA by NED DEARBORN, Assistant Curator of Ornithology. [=Field Museum of Natural History. Publication 125. Ornithological Series. Vol. I, No. 3; pp. 69-136. 1 plate, 3 maps.]

Following a brief description of localities visited, and route traversed, is a careful systematic account of the 305 species and subspecies of birds that were taken. The collection comprised 1187 specimens, of which Dr. Dearborn himself, in three months, collected one thousand, while the remainder were secured at different times by Messrs. Edmund

Heller and Charles M. Barber. Carefully detailed information is given as to the place and manner of occurrence of each species, and, in many instances, valuable data regarding the moult is placed on record; while the exact information relating to the color, in life, of the "soft parts" of many species, often so remarkable in tropical birds, and usually so altered in prepared specimens, should be of the greatest value not only to the systematic worker as such, but also to the curator who desires to place mounted specimens of such birds on exhibition, and would wish them to have something of the appearance they bore in life.

Saucerottea cyanura guatemalae, *Diglossa montana*, *Regulus satrapa clarus*, and *Planesticus tristis rubicundus* are described as new, while the known range of several species is considerably extended, noticeably that of *Vireo belli* among United States birds. Maps are given showing the distribution of the races of *Planesticus tristis* and *Calocitta formosa*, there is a plate showing the breast and remarkably developed trachea of the male *Oriolus vetula plumbeiceps*, while a map illustrating the route followed by Dr. Dearborn forms the frontispiece.

The brief notes regarding the life histories of many species are of such interest as to cause one to regret that this phase of the subject was not dwelt on at greater length. As a whole the paper must be regarded as an exceedingly valuable addition to the literature of Central American ornithology, though several unfortunate typographical errors detract somewhat from the appearance of the publication.

One notes with surprise that this paper is only the third of the first volume of the ornithological publications of the Field Museum, one of the largest institutions in the United States, if not in the world, devoted entirely to natural history.—H. S. S.

PARTS II AND III (March and September, 1908) of GODMAN'S "MONOGRAPH OF THE PETRELS" have been received.* As remarked of Part I, reviewed on page 96, Volume X, of this magazine, the above-titled brochure is perhaps the most elegantly gotten up bird publication of recent years. The splendid hand-colored plates constitute the feature of the work, altho the care which has evidently been bestowed upon the text both technically and typographically appeals to the student of ornithology with scarcely any less force.

Part II consists of pages 69 to 152, plates 20 to 39. Two genera are treated, *Cymodroma*, with one species, and *Puffinus*, with 24 species. Of the latter genus the following species are ascribed to the west coast of North America:

* Published by Witherby & Co., 326 High Holborn, London.

P. cuneatus, *P. bulleri* (upon the authority of Loomis), *P. creatopus*, *P. opisthomelas*, *P. auricularis*, *P. griseus*, and *P. tenuirostris*. The extended biographical accounts of some of these Shearwaters are mostly from the published writings of Anthony.

Part III consists of pages 153 to 232, plates 40 to 66. One more species of *Puffinus* is included, and besides, one species of *Priofinus*, one of *Thalassaca*, one of *Priocella*, two of *Majaqueus* and 23 species of *Cestrelata*. Of these latter genera only now and then a straggler visits the shores of North America.

While there was some delay in the appearance of Part III, the remaining two parts are promised subscribers within a reasonably short time.—J. G.

Report on the IMMIGRATION OF SUMMER RESIDENTS IN THE SPRING OF 1907: Also Notes on the Migratory Movements during the Autumn of 1906. By the Committee appointed by the BRITISH ORNITHOLOGISTS' CLUB. October 1908. Pp. 1-202, maps. = Bulletin British Orn. Club, Vol. XXII.

This is the third of a series of annual reports dealing with the migration of birds into the British Isles, issued by the British Ornithologists' Club. In an introduction of thirty-six pages the species treated are divided into four classes, according to the part of the coast on which they arrive, the daily weather conditions from March 14 to May 31 are tabulated, and the details of the chief movements as observed at the various lighthouses are given. In the body of the work thirty-three species are treated in detail, each with a chronological summary of the records, including dates of nesting, all but three with maps showing time and place of arrival, and there is a long list of unscheduled birds treated much more briefly. There are brief notes on the fall movements of 1906, covering twenty-five species, among which we note the House Sparrow (*Passer domesticus*) treated apparently as a migrant, which is rather surprising to those familiar with the species in this country only, where it is resident wherever found.

The report is strictly a tabulation of information received, generalizations being reserved for some future time when a sufficient mass of data shall have been accumulated.—H. S. S.

THE WINTER BIRDS OF COLORADO is the title of an article written by W. L. SCLATER, which appeared in the July (1908) number of *The Ibis*. Mr. Sclater in an easy (the concise) style which is characteristic of his writings, has succeeded in condensing a great deal of general information concerning the subject mentioned into seven printed pages.

The paper was evidently written to convey a

general idea of the winter bird life of Colorado to English readers, and for a short paper is comprehensive.

It begins with an outline of the topography of the State, and a recapitulation of the total number of species recorded in Cooke's "Birds of Colorado." The body of the article treats of twenty-nine species observed during winter near Colorado Springs, and the paper closes with a list of sixty species of birds resident in El Paso County, and one of eighteen species classed as winter visitors.

Mr. Sclater, who is at present the Curator of the Colorado College Museum at Colorado Springs, was for some years the director of the South African Museum at Capetown, and is the son of Philip Lutley Sclater, the renowned British Ornithologist.—R. B. R.

NOTES ON SOME NORTHERN ARIZONA BIRDS by ALEX. WETMORE. [=Kansas University Science Bulletin, Vol. IV, No. 19; Whole Series, Vol. XIV, No. 19, pp. 377-388; Sept., 1908.]

This is an annotated list of forty species observed from February 24 to April 1, 1907, in the vicinity of Williams, Arizona, and on the lower slopes of Bill Williams Mountain. Examples were secured of all the species observed but one, *Buteo borealis calurus*. Of exceptional interest is the capture of specimens of *Sturnella magna hoopesi*, a species heretofore known only from the extreme southern border of the territory. *Cyanocephalus cyanocephalus* and *Loxia curvirostra stricklandi* were found breeding, or preparing to do so, while no less than five species of Juncos were taken (including the dubious "*Junco annectens*"), the *J. dorsalis* appeared to be the only breeding species. Identifications of the doubtful species seem to have been made with care, tho the Canyon Wren of the region is referred to the exceedingly unsatisfactory *Catherpes mexicanus polioptilus* Oberholser, on the ground that those taken were "almost identical in coloration with a specimen of *C. mexicanus punctulatus* from Summit, Cal."—H. S. S.

GRINNELL'S BIOTA OF THE SAN BERNARDINO MOUNTAINS.^a—This paper presents the results of a biological reconnaissance of the San Bernardino mountains of southern California. The summers of 1905, 1906, and 1907 were devoted to field work by the author and assistants from Throop Institute, and a considerable mass of material in the form of facts and specimens was garnered. The report is modeled somewhat on the lines of Merriam's

^a The Biota of the San Bernardino Mountains. By Joseph Grinnell. (Contribution from the Museum of Vertebrate Zoology of the University of California) University of California Publications in Zoology, V, No. 1, pp. 1-170, pls. 1-24. Dec. 31, 1908.

"Biological Survey of the San Francisco Mountain Region, Arizona," and is concerned in part with the same problems. In the introduction the author says:

"The San Bernardino mountains proper constitute the largest high mountain group in southern California, and include the highest peak south of Mt. Whitney. The forested area is more extensive than elsewhere in southern California, and promised a more abundant fauna. Furthermore, the isolation of this mountain group from any other of approximately similar altitude afforded an attractive feature. My interest therefore centered in this region, and I carried on investigations, with the purpose of ascertaining the composition of its fauna, and the local distribution of the component species."

The scope of the report is fairly indicated by the table of contents which is as follows: (1) Introduction; Itinerary. (2) Life Zones of the Region, with lists of the plants belonging to each. (3) General Considerations: A discussion relating to bird population and the influences modifying it. (4) Some plants of the Region: A list of important species with notes on their distribution. (5) The Birds: A list of 139 species found in the region with a detailed record of distribution in each case, extended biographical accounts of many species, and critical notes on others. (6) The Mammals: A list of 35 species detected in the region with statements of distribution, habits and measurements of specimens. (7) The Reptiles: A list of 20 species observed, with notes on food, habits and range.

Four life zones are included in this region. The Lower Sonoran zone occupies the Mojave desert plateau to the north, and parts of the much lower San Bernardino valley and San Geronimo pass to the south. The Upper Sonoran embraces the vast chaparral belt of the Pacific slope, as well as the pinyon belt of the desert slope. Next above comes the Transition which comprises the major part of the considerable forested area, predominating above the 6500-foot contour. Finally, the Boreal occupies the highest parts of the region, largely above the 9000-foot contour. A colored map and profile of the mountains give an excellent idea of the distribution of these life areas.

The divisions of the Boreal into Canadian, Hudsonian and Alpine-Arctic were difficult to distinguish, and no great wonder for only three trees occur—*Pinus murrayana*, *P. flexilis* and *Populus tremuloides*. Boreal islands of small area are usually difficult to subdivide in proportion as they are distant from some Boreal feeder of considerable extent, although of course aridity and unfavorable soil play a very important part in reducing boreal species. The paucity of species in the present

instance is emphasized if comparison is made with the central Sierra Nevada, where the Canadian has in favorable localities 8 or 9 trees (4 or 5 characteristic) and the Hudsonian 5 or 6 (2 at least confined to that belt). If a count of the shrubs were taken the poverty of the San Bernardino Mountain flora would be even more evident. In the Sierra Nevada the shrubby plants are more valuable, sometimes, than trees for tracing zone boundaries in detail. In the San Bernardino mountains an upper and lower division of the Transition seemed to be more easily distinguishable than the Canadian from Hudsonian, or the latter from Alpine-Arctic.

Under "General Considerations" the author describes some of the influences which modify bird population. In July, when the season of scarcity arrives in the valleys on the advent of the summer drought, many birds that have raised broods in April, May and June, begin to migrate up the mountains, where the season of plenty is just beginning. The highlands are thus a ready refuge when the Upper and Lower Sonoran zones become comparatively barren under the July heat. "Without the mountains to accommodate the excess of bird population, which could not be supported in late summer on the withered lowlands, we would have far fewer birds in the spring." Both the residents and early summer visitants of the valleys, who have availed themselves of the hospitality of the mountains, return to the lowlands in the fall. The visitants thus become transients in the autumn before undertaking the southeastward migration to their winter habitat.

To the regular summer residents of the mountains—those which breed there and whose number is about doubled by the accession of offspring—are added the hordes of summer invaders, with their young, increasing the original population of the mountains at least four fold. The supply of food seemed bountiful enough for an even greater number of birds.

Since the aggregate population probably remains constant from year to year, the annual increase of about half a million (these figures being merely illustrative for the region under consideration) must succumb before the next nesting season. The determining factor, the author believes, is the food supply of the various species in their winter habitat, wherever that may be—either the mountains, in the case of the few permanent residents, or the lowlands in the case of the migratory forms. It is not possible in this short notice to advert to several illustrative examples, nor indeed to consider all the conclusions reached. The chapter is interesting and the points well taken.

Perhaps the rarest find among the birds was a specimen of *Otus flammeola idahoensis* captured June 15, 1905, at Bluff Lake. *Regulus*

satrapa olivaceus was collected, this constituting the southernmost breeding record for California. Forty-eight species are believed to be permanently resident, sixty-eight species summer visitants, and twenty-three transients only.

The avifauna of the San Bernardino mountains "in common with that of the other high mountains of southern California, bears closest resemblance to that of the Sierra Nevada of east central California. A tendency toward increase in size of such San Bernardino species as are subject to geographical variation is quite noticeable; so that in certain cases, such as the hermit thrush and creeper, the San Bernardino birds are somewhat intermediate in the direction of the Rocky Mountain races. Other species, like the Stephens fox sparrow and gray flycatcher, show large size, but are without parallels in the Rocky Mountain region. With variable birds in the mountain systems of California, there seems to be a general increase in size from the north towards the south, a reversal of the case on the Atlantic coast."

Numerous half-tones illustrating the region and its characteristic trees and shrubs add greatly to the interest and value of the paper.

Few regions offer such opportunities as the western United States for the kind of research of which "The Biota of the San Bernardino Mountains" is a good example. Americans have not been loath to take advantage of these opportunities, and it is safe to say also that the results thus far obtained have fully justified the labor. There is much more to do, and the watchword should be quality rather than quantity. We can well afford to make each contribution a careful and well-matured one. The present report certainly fulfils all these requirements and is a most excellent piece of work. Frankly, however, the reviewer can not wholly reconcile himself to the title, the neologistic tendency of which is somewhat academic.—W. K. FISHER.

MINUTES OF COOPER CLUB MEETINGS

NORTHERN DIVISION

DECEMBER.—The December meeting of the Cooper Ornithological Club was held at the home of Walter K. Fisher, Palo Alto, California, on the evening of December 12, 1908. There were present: F. W. Weymouth, J. Dixon, W. P. Taylor, C. H. Richardson, J. Grinnell, J. O. Snyder, E. Heller, J. R. Pemberton, Chase Littlejohn, H. W. Carriger, Walter Fisher, H. S. Swarth, W. O. Emerson, J. S. Hunter and S. S. Berry.

The minutes of the previous meeting were read. On motion of Mr. Carriger the date of

the next meeting was changed in the minutes from December 19 to December 12, in order that the present meeting might be a regular one. Motion carried and the minutes changed. Otherwise minutes approved as read. Secretary was instructed to cast the ballot for F. Hanford and S. G. Jewett, and in accordance they were elected to membership.

The motion was made by Grinnell that all exchanges received by the Business Manager of THE CONDOR be retained by him for his personal use. Seconded by Richardson.

After considerable discussion by Grinnell, Fisher, Emerson and Hunter, the motion was carried.

It was reported that Lee Chambers was in charge of the publication of Avifauna No. 5, and that the work was progressing rapidly. Two hundred dollars had already been raised.

Grinnell moved that the Ten-Year Index of THE CONDOR be made Avifauna No. 6; seconded by Snyder. Carried and so ordered.

Moved by Grinnell that the nominations for Business Manager be opened. It was explained that Mr. Law had made arrangements whereby he could take charge and would withdraw his resignation. Mr. Law was nominated by Grinnell, seconded by Pemberton.

Mr. Grinnell moved that the Constitution be amended so as to create the office of Assistant Business Manager. Carried and so ordered.

Fisher suggested that the annual Club dinner be held on the evening of January 16. He stated that he would make arrangements and would inform the members.

After the business meeting talks were made by Mr. Dixon on the second Alexander Expedition to Alaska, and by Mr. Richardson on the birds of the region near Mecca, California.

During the discussion of the talks refreshments were partaken of. The meeting adjourned about 1 A. M., and was decidedly one of the most enjoyable that the Northern Division has had for years.

J. S. HUNTER, Secretary.

JANUARY.—The January meeting of the Cooper Ornithological Club was held in the rooms of the Oakland Chamber of Commerce on the evening of January 9, 1909, President D'Evelyn in the chair. Fourteen other members were present. Minutes of the December meeting were read and approved.

A letter was read by Mr. Emerson from Dr. Palmer regarding the proposed changes in the State Game law, particularly regarding the extending of the open season for ducks. Mr. Palmer asked that the Club oppose any measure of the sort. Mr. Emerson was appointed a committee of one to keep in touch with Sacramento and report any changes that are to be made in the present laws.

Dr. D'Evelyn spoke concerning the change

of the present meadowlark law and asked the members present to work against any change. Cohen thought that the Club ought to oppose any proposed change in the lark law. He moved that a committee be appointed to draft resolutions to that effect and to also keep in touch with the State Legislature. Mr. Cohen and Mr. Emerson were appointed by the chair, accordingly.

A report was called for from the Business Manager, but was not at hand. It was then developed that no report had been made for three years. Mr. Cohen then moved that a report be called for and be made at the next meeting. Mr. Cohen also moved that a committee be appointed to investigate the finances of the Club, and better the same if necessary. The chair appointed Messrs. Carriger, Emerson and Kaeding.

On motion of Mr. Grinnell nominations for officers for the coming year were opened. On account of a change of residence Mr. Taylor asked that his name be withdrawn as Secretary. Mr. Pemberton then nominated Mr. Carriger. Mr. Wheeler was also nominated for the office of Senior Vice-President.

The election of officers was then held with the following result: President, Dr. F. W. D'Evelyn; Senior Vice-President, W. K. Fisher; Junior Vice-President, E. W. Gifford; Secretary, H. W. Carriger.

Mr. Cohen moved that Mr. Lee Chambers be appointed Assistant Business Manager.

After a short discussion the meeting then adjourned.

J. S. HUNTER, *Secretary*.

SOUTHERN DIVISION

DECEMBER.—The December meeting was called to order by President Morcom at the City Hall, Los Angeles, Tuesday evening, December 29, 1908, with members Howard Robertson, H. J. Lelande, C. B. Linton, Chester Lamb, H. T. Clifton, Virgil Owen, H. B. Kaeding, Willard Chamberlain and Howard Wright present.

The minutes of the last meeting, December 3, 1908, were read and approved.

The following application for membership was presented: William Ray Shaw, Long Beach, Cal., proposed by Mr. C. B. Linton.

Messrs. H. E. Carper, H. E. Wilder, C. H. Luther and J. Warren Jacobs were elected to active membership in the Club, the two latter subject to the approval of the Club-at-large.

Nominations for officers for 1909 were made as follows: For President, G. Frean Morcom; Vice-President, H. J. Lelande; Secretary, J. Eugene Law; Treasurer, W. Lee Chambers.

The Club discussed at length the question of financing the Ten-Year Index, and a communication was read from Mr. Emerson who has

been appointed by the Northern Division to raise funds for the publication.

A newspaper clipping from the Los Angeles *Record* was read by the Secretary, and after a general discussion it was moved and seconded that it be sent to Dr. T. S. Palmer for his perusal. The clipping was headed, "To Make War on the Meadowlarks" and was dated Stockton, December 29. It stated that J. W. Stuckenbruck announces that at the next meeting of the Legislature he will introduce a bill repealing the game law which protects the Meadowlark, as it has increased so much during its protection that it is now proving very destructive to the vineyard growers.

Mr. W. L. Finley's entire series of California Condor photos were then placed on exhibition and the rest of the evening was spent in looking over the finest series of bird photos which have ever been taken. Adjourned.

W. LEE CHAMBERS, *Secretary pro tem*.

JANUARY.—The January meeting was called to order by Vice-President H. J. Lelande at his office in the City Hall, Thursday evening, January 28, 1909, with members H. J. Lelande, George Willett, Loye Holmes Miller, W. Lee Chambers, O. W. Howard, E. A. Howard, Chester Lamb, Virgil Owen, Pingree I. Osburn, H. T. Clifton, Willard Chamberlain, W. P. Taylor, Howard Wright and J. Eugene Law present, and Mr. Austin F. Roberts visiting.

The minutes of the last meeting, December 29, 1908, were read and approved.

Applications for membership were presented as follows: John Rowley, Palo Alto, Cal., proposed by J. Grinnell; H. H. Kimball, Fresno, Cal., proposed by J. Grinnell; Jesse T. Craven, Detroit, Mich., proposed by W. Lee Chambers; Walter B. Barrows, East Lansing, Mich., proposed by W. Lee Chambers; Austin F. Roberts, Pasadena, Cal., proposed by Walter P. Taylor.

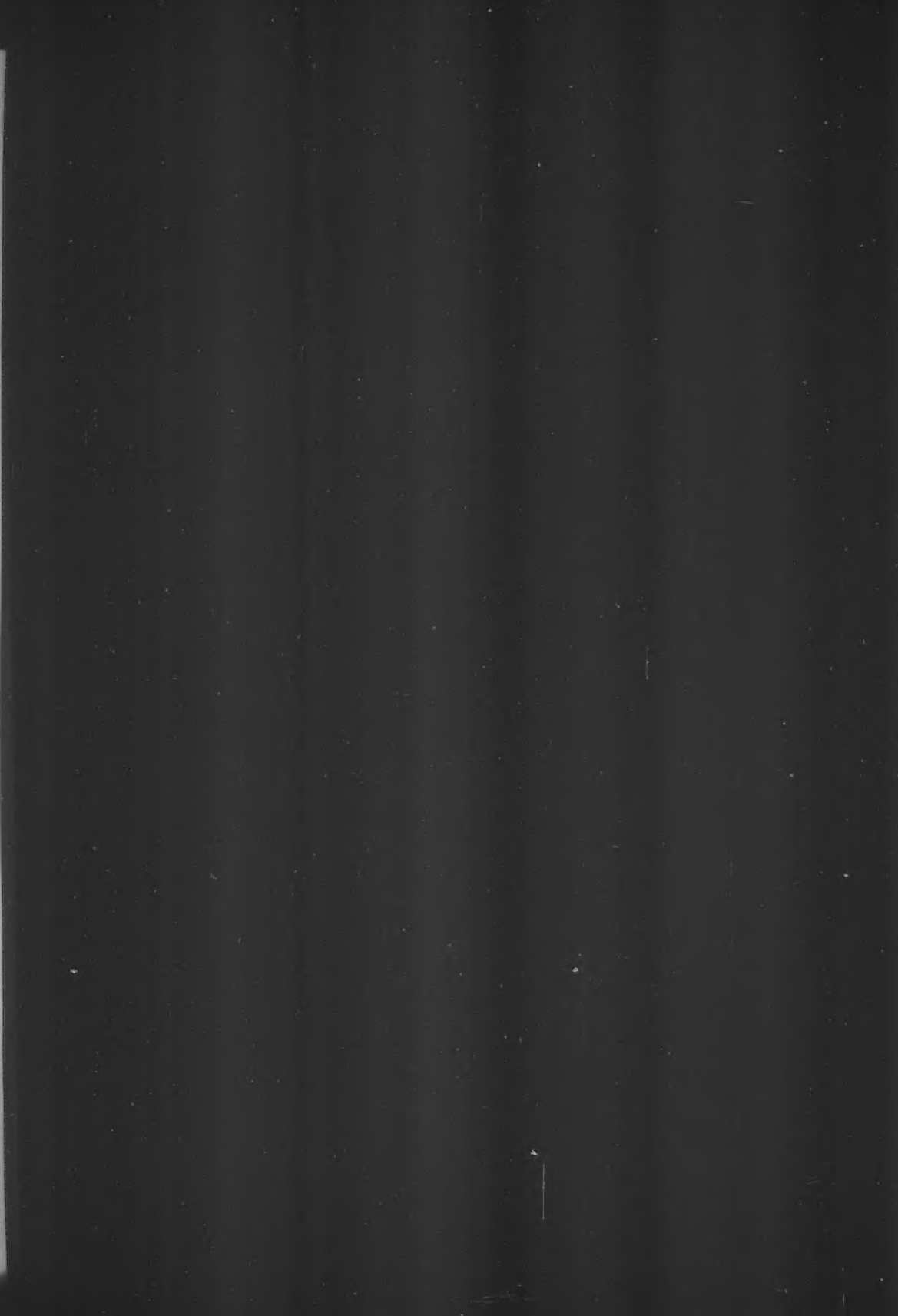
On motion by Mr. Willett, seconded by Mr. Taylor and duly carried, the Secretary was instructed to cast the unanimous ballot of those present electing to active membership William Ray Shaw of Long Beach, Cal.

On motion by Mr. Howard, seconded by Mr. Taylor and duly carried, nominations for officers for 1909 were declared closed.

On motion by Mr. Clifton, seconded by Mr. Miller and duly carried, the Secretary was instructed to cast the unanimous ballot of those present, electing the officers for 1909 as nominated at the last meeting.

The resignation of Mr. E. A. Howard was presented, his absence from the United States in the wilds of Central America for a long period to come making it impossible for him to keep in touch with the Club. There being no objection the resignation was accepted. Adjourned.

J. EUGENE LAW, *Secretary*.



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